The Builder.

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Concerning Things American.

THE illustrated Catalogue of the Eleventh Exhibition of the Architectural League of New York affords some interesting examples of the present tendency of architectural design in that part of the United States, and certainly tends to confirm the impression that no country is at present more permeated by artistic feeling and originality in architectural design than America. The catalogue itself is noteworthy for its artistic form, and the fact that the President of the League offered a medal for the best design for the cover indicates the spirit in which these matters are gone into. We give on the next page reduced reproductions of the design which received the medal, and which appears on the catalogue, and of one of those which received Honourable Mention.

There is evidently still a certain amount of adherence to European forms of architecture. The interior of the church of St. Mary the Virgin, by Messrs Le Brun & Sons, for instance, looks as if it might have been built in London, and obviously owes much—perhaps we might say everything—to the influence of Mr. James Brooks. The entrance of Phelps Hall, Yale College, by Mr. C. T. Haight, involves an obvious and not unsuitable reference to the style of some of the college gateways of Oxford and Cambridge; a wide square tower with octagon turrets at the angles, and a projecting oriel over the entrance archway. French influence, which is supposed to be very dominating in American architecture, chiefly appears here in the competition designs made for various prizes, some of which display very decidedly the influence of the Ecole des Beaux-Arts; and the distant view of the late Mr. Hunt's house for Mr. G. W. Vanderbilt, "Biltmore," suggests a French château, and the architect even seems to have more or less adapted the well known staircase at Blois. The premiated design for the New York Athletic Club, by Messrs. Marsh, Israels, & Harder, also shows very decided Parisian influence; it is an exceedingly refined and well-balanced modern Renaissance front, though as a matter of architectural expression one would have looked to see something rather more simple and sturdy in style as the symbol of a home of athleticism. The orthodox classic columnar style appears more in the drawings for medals and in competition designs for large buildings than in executed works. The names of Mr. Bruce Price and Mr. A. D. Pickering are associated over a competition design for the Minnesota State Capitol, a competition which has produced not a few grandiose designs. The design of Messrs. Price and Pickering presents the usual features in this class of design; a projecting columned portico, and receding wings with engaged columns and a solid pilastered block at the angle; the only unusual feature being a square colonnaded story over the centre, over which rises a circular dome with domelets filling the angles. The result is not comfortable; the dome and its square substructure do not seem to belong to each other. Messrs. McKim, Mead, and White's design for the Columbia College Library Building, the sketch of which we reproduce, shows another experiment in seating a dome, this time a plain hemispherical one on an octagon. There is a satisfactory dignity and balance about this design. Mr. C. B. Atwood's competitive design for a permanent art museum on the Lake Front at Chicago is more Greek in feeling and treatment; its long level lines are very suitable to a lake frontage, but it cannot be said that it exhibits much originality.

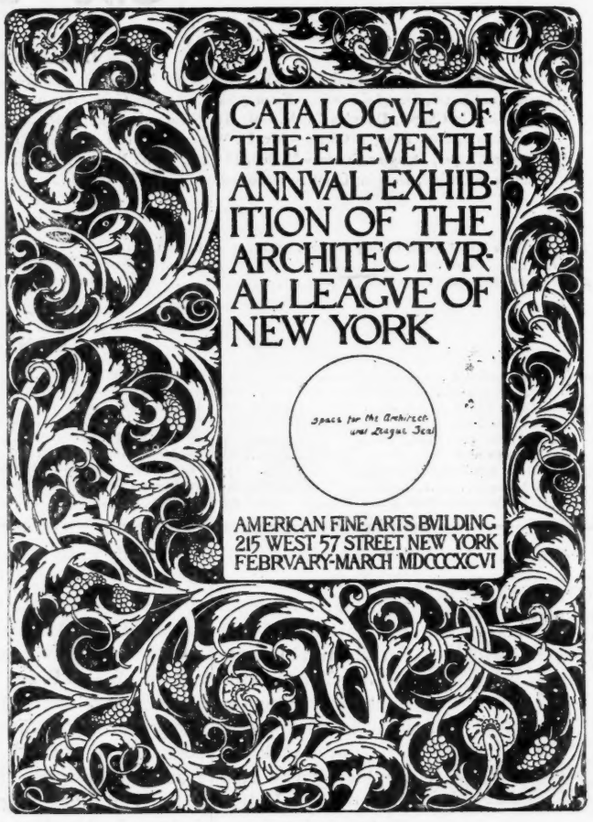
The quality of originality comes out for the most part more especially in the smaller buildings (especially dwelling-houses) and in the decorative designs. A residence at Hartford, by Mr. Hapgood, presents, with its large circular angle blocks with conical roofs, a kind of reminiscence of the French château, but it is the French château Americanised. The circular rooms in these portions of the building would make charming reception-rooms on the ground floor, but their use as bedrooms on the upper plan would leave it very doubtful where to place the bed. The house by Messrs. Kafka & Mott, the view of which we give, illustrates that curious kind of picturesque which seems often to be aimed at in modern American dwelling houses by the combination of classic forms with roughly contrasted walling; here we see the plainly built stone chimney-stacks cutting through the orthodox classic cornice, as if a chimney-stack were no part of the design but had to be regarded as a mere untreatable necessity. The effect is undoubtedly piquant, but has rather the air of a carefully studied piquancy. Among street buildings the original accepted design for the Ninth Precinct Police Station at New York, by Mr. Du Fais, is very good. The wings form low towers with a slightly recessed centre between them, and are finished with a very plain brick balustrade with a ball terminal on the angles; the windows of the first and second floors are grouped beneath round wall arcades running through two stories, and with a severe "modern Romanesque" effect about them; the first has an official dignity combined with a plain and stern effect which seems proper to a police office. The front for some business premises, by Messrs. Jardine, Kent, and Jardine, is another street design marked by a great deal of originality; in this also there is a certain amount of what may be termed modern Romanesque detail. "A House on the Rocks," by Mr. R. H. Robertson, is a bold conception of a modern castellated residence, but we take it that this is in fact, in spite of the title, a "castle in the air."

Among the smaller designs a memorial gateway at Yale University, by Messrs. Cady, Berg, & See, shows a simple but very effective treatment of the old materials of stone gate-piers and iron railing, the ironwork very well treated, the simple gate-piers diversified with a shield amid a carved border half-way up their height. The design for the Hooper memorial fountain at Brooklyn, at the junction of three avenues, by Mr. G. Martin Huss, is cleverly contrived for the situation; three classic columns arranged on a triangle carry a circular entablature with a pedestal and globe above; the latter is too heavy, but the whole design is good of its kind; a small fountain-basin is fitted into each re-entering angle of the triangular podium.

There is no branch of art in which American artists are showing more advance and more thought than decorative design. They seem to hit on a new way of doing things, as in Mr. W. W. Bosworth's tympanum in wrought iron for a doorway in Grace Church, New York (for which it may be remembered Mr. Holiday has designed some of the windows*). The "tympanum," which fills up a Gothic pointed arch, shows the bronze figure of St. John the Baptist in

* See illustration in *Builder*, May 4, 1895.

Design by W. W. Kent (Medal Awarded).



Design by E. E. Edwards (Honourable Mention).

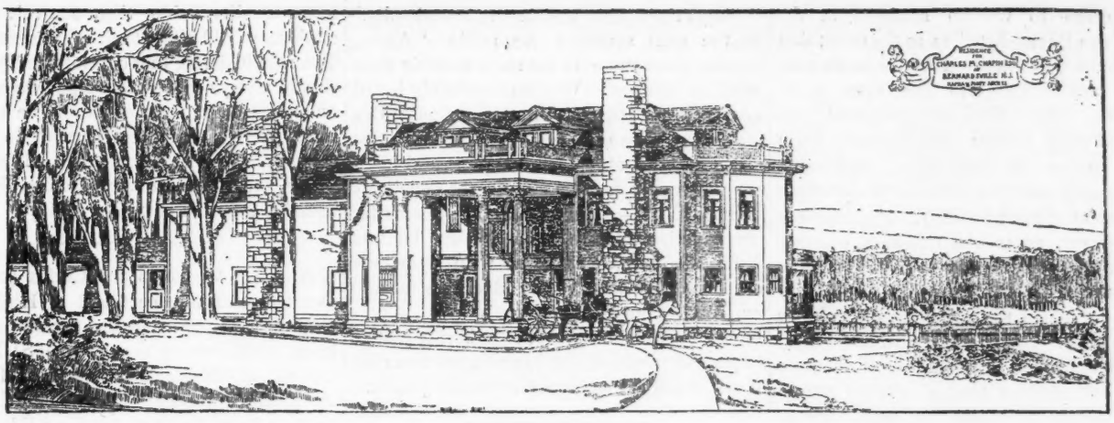
Two of the Competitive Designs for Title Page for the Catalogue of the Exhibition of the Architectural League of New York.

the midst of a space partly filled up by a wrought-iron grille design, partly by a conventional indication of the rising sun on the left of the space, whose rays project across the grille design which forms the kind of background or filling to the whole. A palm-wreath design follows the curve of the arch and makes a border to the whole, and outside that an architecturalised wrought-iron panelling is continued round the curve of the arch and down the door-jamb, forming a metal framing to the whole opening. The general effect and treatment of this design seems entirely without precedent. Among the decorative designs which are the work of painters or draughtsmen rather than architects there is a charming one by Mr. Blashfield, a preliminary study for a circular medallion on the lid of a piano, in which a finely designed figure of a nude man playing the violin and a draped female figure with the harp, both seated, are grouped together so as to fill the circle with admirable effect. Mr. Elihu Vedder's design for "Government," one of a series of five lunettes for the main entrance-hall in the Congressional Library at Washington, represents a central seated figure facing the spectator, with a winged genius on each side holding, the one a sword, and the other a bridle; a bench or throne supported on lions, and an expanse of conventional foliage, fill up the background; there is power in the whole thing, but it rather wants elevation of style, and we should say that Mr. Vedder (whose talents we know are thought a great deal of in the States) was either German by birth, as his name might allow one to suppose, or had been under German influence in his artistic training, from a certain coarseness and bulkiness in his figure-drawing which is characteristic of German taste.

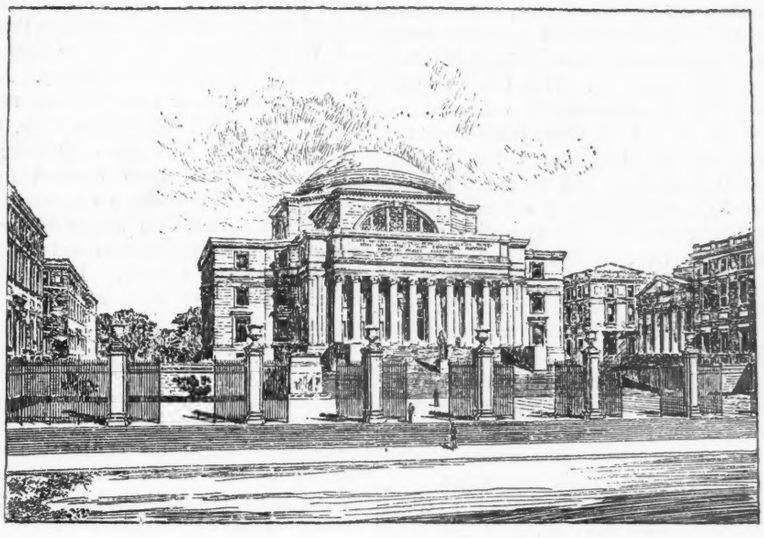
Two designs for the high buildings which are a special American growth—the Park building, Pittsburgh, by Mr. G. B. Post, and an office building in Wall and Nassau-streets, New York, by Messrs. Berg & Clark, show more than usually characteristic treatment in this class of building; the former especially. Here the angles are left solid, pierced only with small plain window openings which hardly interfere with the effect of solidity, while the main tiers of windows are included between a range of lofty vertical piers connected at the top by an arcade; above this main section of the building is a sub-cornice with an elegant colonnade story over it, surmounted by a caryatide story and the main cornice. The New York building, a very narrow one, is treated in a somewhat similar manner, except that there is a little cupola with a square substructure on the top, giving the whole a more graceful and Italian-like finish. Both these buildings are fine specimens of the kind of effect that may be obtained in the architectural treatment of these tower-like structures, but we may point out that both of them suffer from want of sufficient power and mass in the ground story—the portion which forms the base to the whole design; and this is a defect that we have constantly noticed in American "high building" designs. The fact, we suppose, is that the building owners will not consent to give up enough of the window space to allow a sufficient mass of solid wall for the architectural requirements of the design.

The mention of these designs leads us to the subject of the present attitude of public opinion in America on the subject of high buildings, against which there appears to be a considerable agitation going on at present; a fact which may be worth noting by those who wish to introduce the same class of structure into this country. These lofty buildings are, of course, a peculiarly American product, and have been rendered possible chiefly through the absence, in American law, of those restrictions relative to light and air and vested rights which are an integral part of our own law. Several American cities have already passed laws restricting the heights of buildings, notably Chicago, the "home" of such structures. This winter the agitation has extended to other cities; San Francisco, St. Louis, Boston, and New York having eagerly canvassed the question. The objections to the buildings are partly based on the injury they inflict upon the public health by darkening the streets, and through the dangerous risks involved in the erection of enormous buildings that could not be protected, in the event of fire, by the apparatus at the disposal of a modern fire department. The objections to them are helped by the further fact that some of them are designed in the most unhappy manner, and instead of being ornaments to their cities, are quite the reverse.

On the other hand it is contended, and with some show of reason it must be admitted, that because some architects have shown themselves incapable of handling the difficult problem of high design, it is unjust to condemn them on æsthetic grounds. The high building, moreover, answers to certain economic conditions in American business life, and has therefore a useful function of its own. No real proofs have been adduced to demonstrate that they are positively injurious to health, though a good deal of irresponsible opinion to that effect has been put forward. The fear from the aggregation of microbes in their vicinity, which has been gravely advanced in some quarters, is set off by the fact that nowhere, in any American city, does the wind blow as strongly as around the high buildings. In some recent heavy wind storms in New York



House: by Messrs. Kafka & Mott.



Columbia College Library: by Messrs. McKim, Mead, White.

the streets near the high buildings were almost impassable because of the strong currents blowing through them. The objections on account of fire are rendered relatively insignificant by the fact that the high buildings are extremely costly structures, built with the utmost regard for danger from fire, and, in many cases, exhibiting a safety against this element which practically amounts to being absolutely fireproof. This, of course, applies only to the buildings of the better class, since all building in the States is not done in that thorough manner its architects would have us believe.

Singularly enough, the architects of New York have actively interested themselves to bring about the enactment of an anti-high building law; Mr. G. B. Post, who heads the movement, being himself the author of some of the very highest buildings in that city, several of which are not yet completed. The matter, notwithstanding its gravity, has not much interested real estate interests, which are those most acutely involved, but has been left almost altogether in the hands of the architects. This action on their part seems to imply many heroic sacrifices, since the high building, costing from 500,000 dols. to 3,000,000 dols. is the most profitable form of architectural enterprise for the architects, 5 per cent. on these amounts or any between them being very handsome sums.

A Bill, which has been introduced into the New York legislature, to regulate this matter, provides that no building shall be erected in the city of New York, whose height above the curb level at the centre of the front shall exceed fifteen times the square root of the width of the street, unless it is set back from the street line, in which case the upper floors of the part set back may be carried to an additional height of twice the distance by which it is set back. Buildings on corners may have both fronts carried to the height of the front on the widest street. If the building is to front on an open square, or upon a street more than a 100 ft. wide, or is to be opposite the end of a street more than 60 ft. wide, it may be carried to a greater height than is permitted in the provisions just rehearsed, provided that it be certified that it is not detrimental to the health or comfort of the citizens, nor injurious to the beauty of the city, by a Board composed of the President of the Health Department, the Superintendent of Buildings, and a member of the Council of the Fine Arts Federation, the last being an artistic body composed of representatives from all the artistic societies in New York, painters, architects, sculptors, decorators, &c.

It is interesting to note that the law embodies a provision that no high building shall be built in New York that is "injurious to the beauty of the city." New York is far from being a beautiful city, though its situation at the head of New York Bay is most majestic, and one of the most impressive in the world. The practical operation of such a law will certainly be attended with some difficulty in a country like the United States, where each man, or certainly each architect, is a law unto himself. Had it been enacted five years ago New York would to-day have presented a very different appearance from what it does; yet while it may have gained in some respects it would probably have been deprived of a good deal of its present individuality.

NOTES.

THE first of the Bills of the London County Council for the acquisition of the Water Companies' undertakings came before the House of Commons on Tuesday. At the instance of the Government it was thrown out. It was obvious that, having regard to the Ministerial Bill to create a Water Trust, it would have been altogether anomalous to allow the County Council to proceed with a private Bill to enable them to acquire the rights of this particular company. It is surprising, indeed, that the County Council should have proceeded with any of their Bills. To take over the business of the several Companies will be the first work of the Water Trust. The opportunity was also taken by the President of the Local Government Board, to state the attitude of the Government towards the private Bills promoted by the water companies. These will be allowed to pass their second reading, but there will be an instruction to the Committee that only such part of the Bills are to be passed in Committee as are necessary for increasing the supply of water to London where it is clearly needed. That is to say, the Government will not stand in the way of an increase in the supply of water, since by so doing an injury might be done to the health of London. Obviously, however, we have reached a period of transition, and the most pressing duty of the Government is to have the Water Trust brought into existence as soon as possible, so that the measure for taking over the supply of water to London and the suburbs may be well in hand before next session.

THE French Minister of Public Instruction has given an audience to Mdme. Demont-Breton, the President of the "Union des Femmes Peintres et Sculpteurs," relative to State instruction in art for women. Mdme. Demont-Breton claimed that precisely the same course of education ought

to be given to women students, at the "École des Beaux-Arts," as to the men; that they should be instructed by the same professors and enter into the same competitions. The Minister informed the lady that this course had already been decided upon in principle, and that he expected that it would come into operation at Easter in 1897. Nothing was said, however, as to the question whether the women-students were to work with the men in the same ateliers, which is the very point about which the principal difficulty is likely to arise. Apart from this, there is no doubt that Mdme. Demont-Breton is quite right in her position that, if women are to have a chance of competing with men as artists, and attaining the first rank, they must be given the same educational advantages.

THERE is no doubt that the prevention of floods in the Thames Valley is very important from many points of view. Floods are injurious to health, and they depreciate and injure houses and their appurtenances. It is obvious, however, from what passed between Mr. Ritchie and the Deputation which waited on him last week, that there are difficulties in the way of effectual remedial measures. The Thames Conservancy appears unable or unwilling to take any steps in the matter; it regards itself as responsible for navigation and not for drainage. If, however, it is justified in these scruples they should be at once removed by legislation; and what is more, this body should be strengthened by the addition of more representatives from the Upper Thames. Someone representing Eton College, for example, should have a seat on it, and allthe important towns should have representatives. It is anomalous that the Thames Conservancy should at this moment be taking measures to stop the pollution of the smallest streams fifteen or twenty miles away from the Thames simply because they are tributaries of that river, and yet be unable or unwilling to grapple with the more serious and more obvious evil caused by the Thames floods. Moreover, the work which it professes to manage is often neglected. The fact is, that the Thames Conservancy requires new blood and more energetic members, and until some alteration in its constitution occurs, the inhabitants of the Upper Thames will have just cause of complaint against it.

WE have received a circular from the Roads Improvement Association, with various recommendations for the treatment of our roads, which appears to be somewhat behind the times, and was evidently prepared before the Local Government Act, 1894, came into operation, and introduced such radical changes with regard to road administration. The perusal of this document recalls the impression produced by a poster of a bygone and forgotten political election. The complacency with which errors are stated and moot points disposed of are admirable. As an instance of the former we quote the following:—"To nothing more than the excessive size of the material employed is the present extravagant outlay attributable, for it is a self-evident fact that a given weight of stone broken to a 1½ in. gauge will cover an infinitely greater area than if broken to 2½ in." Perhaps the author meant "infinitesimally." In the next sentence we read:—"Again, hand-broken stone is far more durable than machine-broken." We have certainly heard engineers of some reputation dispute this statement. An objectionable feature in this circular is the attack made upon rural highway surveyors as a class for the deficiency of individuals—especially as the blame for these deficiencies must in fairness be laid upon the employer rather than upon the employed. If an authority advertises for and employs a man at a labourer's wage to perform an engineer's work, it is hardly justice to put the whole of the blame upon the man if the result is unsatisfactory to the public.

THERE is something extraordinary in the way in which a body of men, combined as a Local Authority, will act when as individuals they would probably never think of pursuing the course which they follow as a public authority. This fact was well exemplified by a case which was tried last week before the Lord Chief Justice—that of Murray *v.* The Uxbridge Urban District Council. This body had agreed to pay the plaintiff £350 for cleansing a portion of the river Colne, and on their side they agreed to keep the river as free from sewage as possible. Two hundred pounds of the sum was duly paid, but the balance was not paid, and the plaintiff was obliged to enforce his claim by an action. The only ground of defence—if ground it can be called—was that there was no provision in the contract for a pecuniary penalty for the non-completion of the work in accordance with Section 174 of the Public Health Act, 1875. Before the case was ended, the Lord Chief Justice expressed very strongly his view that the work had been properly done by the plaintiff, and that he ought to be paid for it. He characterised his demand as "a just claim," which it was attempted to defeat by a paltry technical legal point. Thereupon the counsel for the Urban Council agreed on behalf of the defendants to pay the plaintiff without calling on the Chief Justice to give judgment. No honourable man would have acted as this Urban Council did—yet as a body they did not pay what was due to the plaintiff until they were listening to the emphatic protests of the Lord Chief Justice. It is also to be noted that the pollution of the Colne was caused by the Uxbridge Urban Council, the very body which should have prevented it.

THE Liverpool, London, and Globe Insurance Company have sent us a copy of their electrical installation rules, which show that insurance companies have at last recognised the new methods of wiring. Interior conduit and concentric wiring are specially mentioned, and even the ugly system of running the conductors in full view on porcelain insulators. Superior materials and workmanship have now made these systems absolutely safe when properly installed. In our opinion, these rules do not sufficiently distinguish between 100-volt and 200-volt circuits, which is the more surprising as the 200-volt supply is getting fairly common, Wandsworth and Birkenhead being the latest recruits. They do not mention the minimum distances allowable between the poles of cut-outs in the two cases, and they seem content with a far lower quality cable than 200-volt supply stations would allow their customers to use. The rule insisting that cut-outs and switches should always be in plain sight we object to on æsthetic grounds. It would be better to insist merely that there should be certain conventional places for them. Taken as a whole, the rules are very favourable to the users of electric light.

IN order to widen the Carfax (or *quatre voies*) at the west end of High-street, Oxford, it has been decided to pull down the body, whilst leaving the tower, of St. Martin's Church, which stands at the corner of Queen-street and Corn-market. The church is said to have been founded by King Edward the Elder, *circa* 920, that is, shortly after he, according to the Anglo-Saxon chronicle, had taken possession of London and Oxford with all the lands owing obedience thereto, and Wood records that Canute bestowed St. Martin's upon Abingdon Abbey. All of the church, the tower excepted, was rebuilt in 1820-2, in the Perpendicular style, from the designs of Mr. Plowman, of Oxford; the ancient tower had been lowered in 14 Edward III. by the king's command, that the townsmen might no longer annoy the scholars by throwing arrows and stones at them from its summit. In the old church Shakespeare stood as godfather to Sir William Davenant, son of John Davenant, the vintner of the "Crown" inn, in the Corn Market. In a recess at the east end stood from 1546-1747 the "pennyless bench," and until the rebuilding a small square chamber, at the end of the south aisle, contained a clock and dial between figures, known as the "quarter-boys," for striking the chimes with hammers.

THE exhibition of the Parisian Art Society called the "Rose-Croix," after wandering from one *locale* to another, has opened this year in the "Salle des Arts Réunis," in the Avenue de l'Opéra. After astonishing the public by the eccentricities of their previous exhibitions, the "Rose-Croix" has this year much reduced the number of its exhibitors, so that the collection only includes about a hundred works, some of which are very remarkable, though their symbolic meaning is often not very easy to follow. Among the best works are the "Narcisse" of M. Cornillier; the "Ecce Ancilla Domini" and the "Androgyne," by M. Armand Point; "Néméa," by M. Maurice Chabas; and the poetic landscape and figure compositions of MM. Gillet, Murphy, Osbert, Des Gachons, and Moreau Néret. In short, this year the "Rose Croix" shows a real advance in the character of its exhibition. A collection of landscapes by M. Carle Rosa, at the "Galérie des Artistes Modernes" in the Rue de la Paix, is also worth attention.

A SMALL exhibition of works of art was held at Bolt-court last week in connexion with the art scholarships and exhibitions offered by the Technical Education Board of the London County Council. Amongst the best exhibits we noticed some models in wax, such as a door-knocker, a lamp-post, and a lectern, which were well worthy of commendation. Some light reliefs in electro, and framed, of a nude woman descending on a wave, conventionally

treated, were excellent, but no name was attached. The worst designs were those for book covers, which were *bizarre* in the extreme. Other exhibits were of wood-carving, embroidery, drawings from the cast, &c. The majority of the scholarships have been awarded for the application of art to various industries, and we think this is in the right direction. So-called "art schools" abound throughout the land, but the Technical Education Board should turn its serious attention to the trades and crafts, which may well be improved and developed in regard to the artistic character of their productions.

TISSOT'S "LIFE OF CHRIST."

By a curious kind of irony, the Doré Gallery, for many years the home of false and pretentious pictures dealing with events in the life of Christ, and painted by an artist who, with his tongue in his cheek, as one may say, appealed at once to the religious instincts and to the artistic ignorance of the English middle-class, has become the place of temporary exhibition of the most remarkable and most earnest series of illustrations of the life of Christ that has perhaps ever been painted. Not less strange is it to consider from whose hand these come. J. James Tissot many years ago took up his abode in London for some time, apparently for the purpose of studying London Society from the painter's point of view, and was known among us as the producer of remarkably clever pictures of London ball-rooms and receptions, utterly destitute of feeling, in which the merely superficial side of fashionable life was depicted with relentless truthfulness. At the age of fifty the painter suffered apparently a sudden revulsion in his feelings and sympathies, gave up ten years to the study of the scenes of the life of Christ, the architecture, the types of people, the landscape, of the Holy Land, all as the setting to a series of illustrative pictures which have seldom been equalled in their reality and intensity, and in comparison with which Doré's "Bible" is childish work.

The pictures consist of a great number of small and very highly finished water colour drawings, remarkable in the feeling for colour that pervades them, still more remarkable for their intensity of expression and for their close attention to truthfulness of detail and general effect. M. Tissot, as an illustrator of the story of Christ's life on earth, may be said to take a middle course between the purely conventional treatment of the Renaissance painters and their modern imitators, and the rather commonplace realism of such a painter as Von Uhde. His aim is to realise the personages of the history as they may have actually lived and dressed and acted, but without losing sight of the supernatural element. His Christ, in most of the illustrations, is a more or less idealised figure, partaking to some extent of the character of the traditional representations of the Saviour; a man among men, but pre-eminently a saintly figure, raised above the type of common humanity. The other personages in connexion with the history are treated from the realistic point of view; the artist attempts to revive to our imagination the very look and dress of the people, the very appearance of the streets and courtyards, amid which the sacred drama was enacted. At the same time the element of mysticism is not entirely left out, but it is introduced only where the subject seems necessarily to call for it. The realistic side of the treatment is picturesquely illustrated in the scene "St. Joseph seeks a lodging in Bethlehem," where we see one of the narrow stony alleys of the little town, the straggling stone steps leading up to the pile of old houses above, and Joseph calling up the steps to know whether he can have shelter there. The mystical note is illustrated in the beautiful design of "The Annunciation," where the angel is no being in human form, but merely a face emerging as the centre of rays of light and partly imaged wings; the technical treatment of the coruscation of light is very remarkable in itself, and reminds one of Blake's wonderful little picture of the Nativity. Blake is, we should imagine, almost utterly unknown in France; whether M. Tissot has made any acquaintance with his works we know not, but he reminds us of Blake more than once in the series. The figure of the Virgin in "The Annunciation," seated on the ground at the right of the picture with her head bowed, is exquisitely beautiful. We are reminded of Blake again in the extraordinary design after the temptation, "Angels came and ministered unto Him," where Christ lies exhausted on the ground amid a close circle of stooping angels, their hands all stretched out and converging towards him. An extraordinarily powerful design is that of "The Wise Men journeying to Bethlehem," three figures on dark camels advancing abreast into the foreground, backed by a stony arid landscape in the glare of the sun. "St. John the Baptist as a child in the wilderness" is another singularly beautiful conception; a bright and eager child who has stuck his little cross in the ground beside him, and holds up his hands in a kind of ecstasy of contemplation.

We can only draw attention, as we go along, to some of the most powerful of the designs. "The Lost Piece of Silver" shows the woman down on the floor sweeping for it with all her might. In "The Two Women Grinding at the Mill" the shadowy death-angel stoops and touches one with his finger, the woman's face is distorted with the last cry as she expires. The parables, "My name is Legion," "The two unclean spirits," "The herd of swine," are treated with great power. "Christ foretelling the destruction of the Temple," "Judas bargaining with the chief priests," the guards when "they went backward, and fell to the ground," are especially remarkable for dramatic power. Among the scenes of the Passion, which are treated with a pathetic and almost painful realism, the small picture giving the view of the Forum and the site of the Gabbatha, at the moment when the sentence is passed, is a really wonderful work; the whole scene, buildings and figures, is painted with a minute realism almost recalling Meissonier. The scenes on the road to Calvary, and the closing scene itself, are delineated with a tragic reality; there is no false scenic effect about it, but there is an impression as if they were painted by an actual eye-witness.

In addition to the general scenes, the artist has added separate studies of single figures of many of the principal actors in the history, giving his conception of their personality. Some of these are very striking. St. Peter is a very characteristic figure, so is John the Baptist, with his large head and shaggy hair and his look of wild fervour. The painter has taken the mediæval view of Pilate, and represents him as a person of exceedingly mean and unprepossessing countenance, which we think is a mistake. There is no reason to suppose that Pilate was anything worse than a formal Roman official, troubled about a tumult among the people over whom he was set, the meaning of which he did not understand, and thinking it most politic to let the people have their own way in a matter which did not seem to concern the government to which he was responsible. Probably Pilate reported the matter in a despatch to Rome, and was commended for his prudent conduct. The study of the centurion who was so deeply impressed as to exclaim "certainly this was a righteous man" is a singularly beautiful one; his figure is easily recognisable also in more than one of the general pictures of the scene on Calvary; the figure of a man struggling between his better feelings and the duties of his office.

In addition to the finished set of pictures, a large number of M. Tissot's studies of landscape, buildings, and types of Jewish people, are exhibited; and many of these are very interesting.

It is to be hoped that a public which has for twenty years frequented this gallery to gaze at Doré's shallow and sensational pictures, will not neglect these far superior works, which should be of equal interest to them whether from the Christian or the artistic point of view.

THE ARCHITECTURAL ASSOCIATION:

ARCHITECTURE OF THE TEUTONIC ORDER.

THE ordinary fortnightly meeting of this Association was held on the 20th inst., in the Meeting-room of the Royal Institute of British Architects, 9, Conduit-street, Mr. W. D. Caröe, M.A. (President), in the chair.

The following gentlemen were elected members of the Association, viz.: Mr. A. H. Goslett, and Mr. C. J. Devitt.

A cordial vote of thanks was passed to Mr. E. W. Mountford for allowing the members to visit the Northampton Institute, Clerkenwell, for conducting the party, and providing refreshments.

The Chairman announced the commencement of the following classes, viz.: the Sketching and Measuring class on April 14; the Water-colour class, under Mr. Weedon, on April 18; the Mensuration and Land-surveying class, under Professor Henry Adams, on April 22; and the Modern Design class, under Mr. H. Heathcote Statham, on April 28.

House List.

Mr. B. F. Fletcher (Hon. Sec.) read the following nominations for the House List:—President, Mr. A. Beresford Pite; Vice-Presidents, Mr. W. H. Seth Smith and Mr. J. Begg; Committee (ten to be elected), Messrs. R. S. Balfour, C. C. Brewer, W. D. Caröe, A. W. Cooksey, S. W. Cranfield, A. W. Earle, O. Fleming, A. S. Flower, F. T. W. Goldsmith, A. H. Hart, F. G. F. Hooper, H. Huntley Gordon, E. W. Mountford, E. H. Parkes, G. H. F. Prynne, J. W. Stonhold; Hon. Treasurer, Mr. H. W. Pratt; Hon. Librarian, Mr. C. H. Freeman; Hon. Secs., Messrs. B. F. Fletcher and E. Howley Sim; Hon. Solicitor, Mr. W. H. Jamieson; Hon. Assistant Librarian, Mr. E. W. M. Wonnacott; Hon. Auditors, Messrs. F. G. W. Buss and M. Garbutt; Assistant Sec. and Registrar, Mr. D. G. Driver.

Mr. C. FitzRoy Doll then read a paper entitled "The Architecture of the Teutonic Order, with special reference to the Restoration of the Marienburg."

Mr. Doll said he desired to amend the title of his paper to the "Architecture of the Teutonic Order in Prussia, with particular reference to the restoration of the Marienburg," as it was obvious that to describe, however inadequately, the houses that were built by the Order in Palestine, Sicily, Italy, Germany, Kurland, and Holland would provide materials for many volumes, as this Order might appropriately be styled the "Building Order" of the three great Orders that had their origin in the crusades against the Mahommedans. He then proceeded to give an account of the history, rule, and organisation of the Military Order, which ultimately had its chief seat in Prussia. The origin of the Order could be traced back to 1127, when a German and his wife resident in Jerusalem turned their house into a "hospitium" for their compatriots male and female, rich and poor, suffering from want or sickness. A faculty was obtained from the Patriarch of Jerusalem for the erection of a chapel for the use of the inmates, which was dedicated to the Blessed Virgin, and the establishment was thenceforth known as "The German Hospital of S. Mary at Jerusalem." With the Hospitallers of S. Mary and some Hanseatic merchants as a nucleus, the Teutonic Order as such was founded in 1190, under the walls of Acre, the first hospital being formed with the sails of the ships belonging to merchants of Bremen and Lübeck. The Emperor Henry VI. obtained the sanction of Pope Celestine III. to the formation of the Order, and the latter gave them a rule in accordance with the Augustinian Canons. The first Grand Master was Heinrich Waldbot von Bassenheim, a Rhinelander from the neighbourhood of Coblentz, who, as soon as Acre had fallen into the hands of the Crusaders through the gallantry and skill of our great hero, Richard Cœur-de-Lion, built a permanent hospital and church in that city. The second Grand Master was Otto von Carpen, a citizen of Bremen; the third, Hermann Barth, of Lübeck; and then in 1210, Hermann von Salza, the greatest of all the Grand Masters, was elected.

In the course of further remarks on the history of the Order, the lecturer said that the general term for the buildings of the Order is castle, but for the particular names in respect to their rank, he knew no equivalents in our language, and so he would call them Grand Mastery, Provincial Commandery, Grand Commandery, and Commandery. The "Grand Mastery" was transferred from Venice to Marienburg in 1309 by Siegfried von Feuchtwangen. Up to that time the place had only been a simple Commandery. In the course of their military operations the Order formed temporary strongholds in desirable situations, protected by earthworks and timber pallisades, the latter material ever being in abundance, for they were in that country the forests of which have made three ports familiar to us all from our earliest professional experience. When given a specification to copy, we write "the fir to be the best Dantzig, Riga, or Memel, &c."

"On the sites of these strongholds permanent buildings were erected at once in some cases, whereas in others a considerable time elapsed before the Castle Convent was constructed. Those that had water communication, or were nearest to the border, and consequently in the forefront of the fighting, appear to have been built first. Those farthest from the enemy, and,

therefore, more secure, were left to be erected at leisure.

A perusal of the tables of dates given below (which is taken from Steinbrecht) will at once show when the temporary strongholds were formed and the permanent buildings erected :—

FORMATION OF STRONGHOLD.

1.	Nessau	1230
2.	Thorn	1231
3.	Althaus Culm	1232
4.	Reden	1234
5.	Graudenz	(1235)
6.	Elbing	1237
7.	Engelsburg	1237
8.	Balga	1239
9.	Birgelau	(1245)
10.	Unislaw	(1245)
11.	Neu Christburg	1248
12.	Zantir	1248
13.	Konigsberg	1255
14.	Schonsee	(1250-1260)
15.	Roggenhausen	(1250-1260)
16.	Papau	(1250-1260)
17.	Leipe	(1250-1260)
18.	Melsas	(1250-1260)
19.	Marienburg	(1250-1260)
20.	Tapiau	1265
21.	Brandenburg	1266
22.	Lochstedt	1266
23.	Mewe	1282
24.	Strasburg	1285
25.	Golub	1290-1300

ERECTION OF PERMANENT BUILDING.

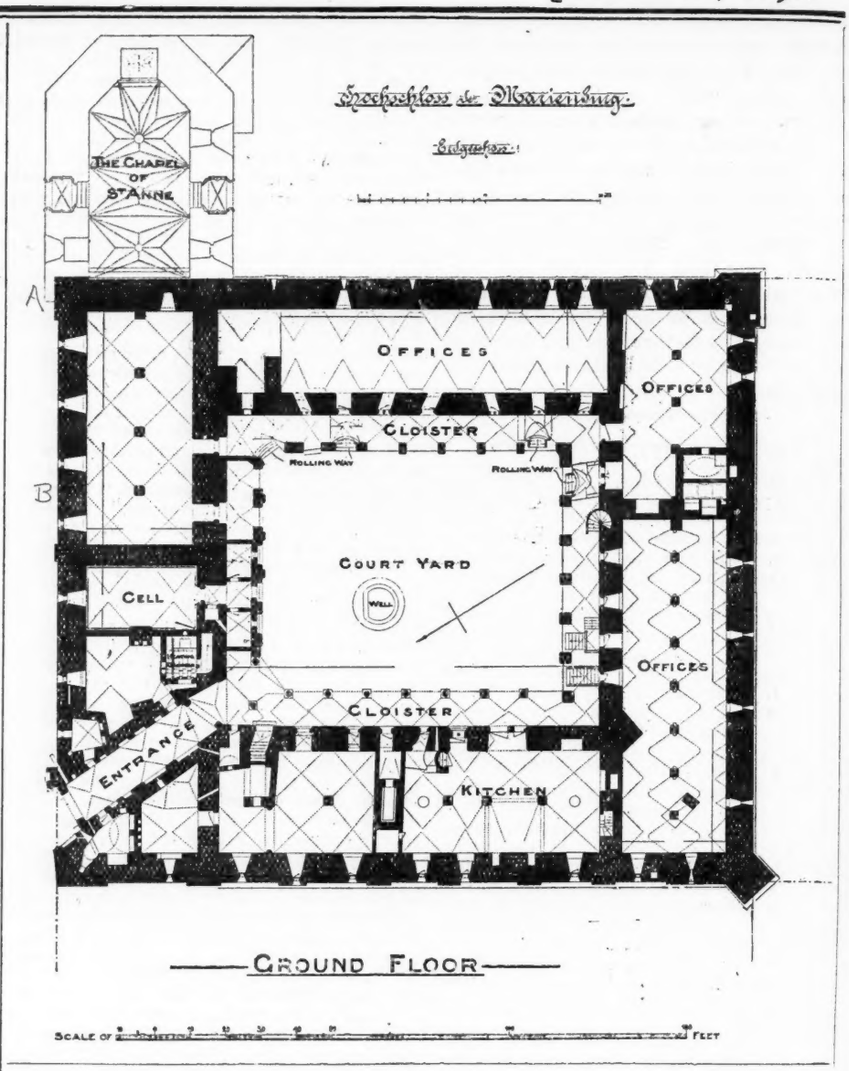
1.	Althaus Culm	(cr. 1235)
2.	Elbing	(1240-1250)
3.	Balga	1240-1250
4.	Thorn	1250-1260
5.	Neu Christburg	(1250)
6.	Graudenz	1250-1260
7.	Konigsberg	1257
8.	Birgelau	1260-1270
9.	Unislaw	(1260-1270)
10.	Brandenburg	1266
11.	Lochstedt	1270
12.	Marienburg	1280
13.	Mewe	1282
14.	Tapiau	1280-1290
15.	Papau	1280-1290
16.	Schonsee	1280-1290
17.	Roggenhausen	(1280-1290)
18.	Engelsburg	(1280-1290)
19.	Reden	1290-1300
20.	Strasburg	1290-1300
21.	Leipe	(1290-1300)
22.	Nessau	(1300)
23.	Golub	1300
24.	Welsas	?
25	Zantir	Never.

NOTE.—Uncertain dates are in brackets.

The permanent building was commenced by the erection of a tower, which was made perfectly habitable before any of the other buildings were commenced, so that it might serve as a tower of refuge in case of attack, whilst the works were being carried on. These towers were afterwards incorporated with the castle, in some cases within the main walls as at Reden, in some attached to the external walls as at Strasburg, or in others detached entirely as at Golub. In the two last cases the only means of entry was a drawbridge on the level of the archers' gallery, just under the eaves of the main building.

As an illustration of these towers, I take the one at Strasburg, in Culmland, which stands now alone on the road it was built to protect from the incursions of the Lithuanians.

The Commandery that was once beneath its shade is only to be traced by a few ruins, but still the old tower stands erect, a proud relic of the past, bearing testimony to the conscientious way in which its builders did their work. Originally this tower was at the north-west corner of the Commandery, and up to the level of the archers' gallery (wehrgang) it is hexagonal; from this point it becomes octagonal for a height of 52 ft. Just above the sixth stage the angles of the octagon internally are corbelled out, and under the floor of the ninth stage arches are turned between these corbellings which carry the embattled crown of the tower. The diminution of the diameter by means of this corbelling, provides the necessary platform on the top of the main walls for the archers' gallery, which is made more perfect from a military point of view by having the eight faces turned into sixteen by means of the projecting arches springing from the angles of the octagon, which also serve to give greater width in the gallery. The archers' gallery of the main building was carried round the tower on the corbels which still project from the walls. The only means of entering the tower was by a drawbridge from the roof of the Commandery to the door shown, which is about 10 ft. above the main archers' gallery, the passage from the opening into the tower being



provided with two doors, one opening inwards and the other outwards, which is evidenced by the rebates in the jambs. Beneath the entrance floor there are two dungeons, both of which receive a glimmer of light and the minimum of ventilation from a small slit in the brickwork high above. The upper dungeon has a privy with a shaft from it in the thickness of the wall, which is continued upwards to the archers' gallery, where there was a convenience for the watch. The lower dungeon is 9 ft. and the upper 10 ft. in diameter. The fifth stage above the entrance is the watch-room, which is provided with a fireplace, as is also the room on the level of the archers' gallery, with a draught flue to turn a spit. When properly provisioned, a small number of men could hold out for a very long time against superior numbers in such a stronghold as this. This tower was built about 1295. The total height above ground is 180 ft., and the width at the level of the entrance floor 33 ft. 9 in. The walls are 12 ft. thick at the ground level, and 6 ft. thick just under the archers' gallery.

The foundation is formed with granite boulders, and the superstructure of bricks, with a trellis pattern on parts in glazed bricks. The tympana are rough-cast, and the roof of the archers' gallery was originally, no doubt, covered with glazed tiles of many colours.

A tower of this description formed a part of most of the castles of the order; but, although agreeing generally in essentials, no two, as far as I am aware, are identical with regard to design, some being square or oblong on plan, whilst others are round or polygonal.

To illustrate the Commanderies, I have selected those at Reden and Golub, as their ruins are still sufficient to allow of their exact form being determined, and, further, because Reden is typical of the castles on the plains, and Golub of those on an eminence.

The castle convents in general were square on plan, or as nearly so as possible, the mediæval architects, as you are aware, having a rooted prejudice to exact dimensions. (A glance at the table of comparative dimensions of all the castles, appended to this paper, will at once demonstrate this assertion.) Thus Reden is 159 ft. 1 in. on the north and south fronts, and 157 ft. 7 in. on the east and west. The Vorburg or outworks were built according to the natural contour of the site, and therefore was dictated rather by necessity than desire. It consisted of a large open space, surrounded in many cases by a moat, and in all by an embattlemented and loop-holed wall, with a defending gallery behind it. There were flanking towers where necessity or policy demanded them. In the Vorburg were placed the workshops, brewery, granary, stables, cattle-stalls, poultry-yard, vegetable-garden, &c.

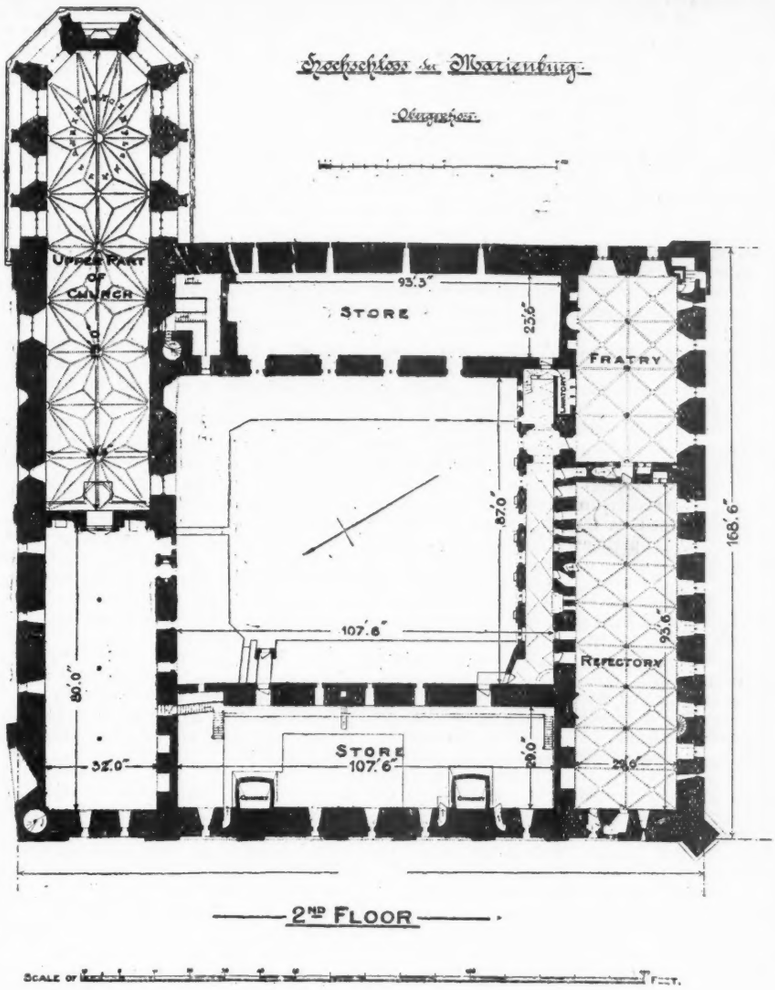
I will not weary you by going through the plans in detail, but will leave the drawings to speak for themselves as to the particular arrangements of these two castles. You will, however, find that they virtually supply the same accommodation as the Hochschloss at Marienburg, (which I now propose to describe), only upon a smaller scale. I would, however, point out a peculiarity that occurs at Reden. The spaces all round the main tower and under the kitchen and stable in the basement, are packed with good-sized boulders. Baurath Steinbrecht considers the object of them was to be an additional check to any attempts on the part of the enemy to tunnel up to the tower.

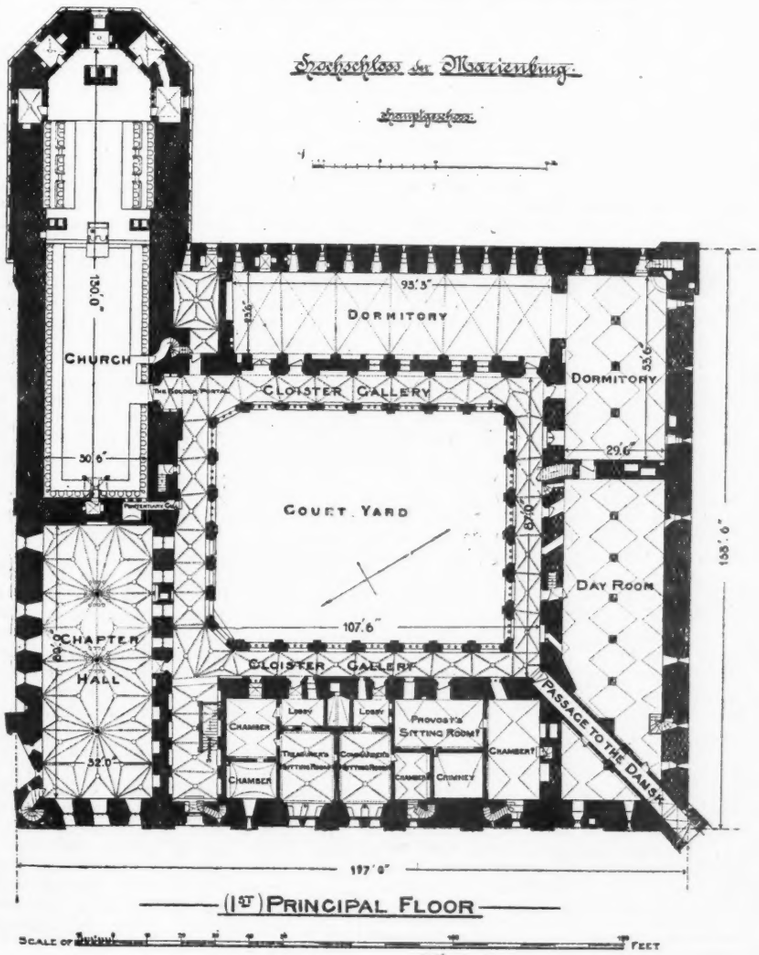
Without contesting his theory, I fancy that they may also have been put there as a store for ammunition to hurl down from the tower on to the heads of the invaders.

At this point I will also mention that the Commanderies in many cases had a large hostelry attached to them for the reception of visitors who had occasion to go to them on business or pleasure.

Marienburg, on the right bank of the River Nogat, the branch of the Vistula forming the eastern side of the delta of that great stream, was erected by Conrad von Thierberg in 1280 (according to some authorities in 1274), as a Commandery with a hostelry attached. The object of the castle was to protect the main road from Culmland to the Haven district, and to be the seat of government of the lands within the delta.

The original castle was planned for the accommodation of twelve knights with their men-at-





arms and servants, and the convent is nearly a square on plan, being 197 ft. by 169 ft., not to go into fractions. The plan follows the usual custom of ranging the buildings round a courtyard or garth, with cloisters on the ground-floor, and cloister-galleries over them to approach the rooms on the different floors.

The basement was devoted to cellars, each of which had a rolling way to it, as shown on the ground-floor plan of Reden. Ample cellarage was of great importance, as these castles, being open at any moment to attack, had to be ever prepared for a siege of unknown duration, and therefore the sufficiency of provisions was a matter of life and death.

The ground-floor provided for the main entrance, the gatekeeper's lodge, the parlour, the kitchen with its great brick and tile cooking-stove, the heating-chamber, workshop, well, and offices with accommodation for the servants.

The first floor, as usual, is the principal one, and provides for the abode of the knights. In the north wing are the chapel with sacristy, penitentiary-cell, and a musician's-gallery (at the west end), the chapter-hall, and muniment-room. On the south side are the refectory and dormitory, and on the west the commander's, provost's, and treasurer's apartments. The east being the land side, and therefore most liable to attacks, was enclosed by a high loop-holed screen wall, with a loft or fighting gallery along its whole length. The archers' gallery went round the north, west, and south sides of the building, and was approached by the staircases shown in the thickness of the external walls.

From this floor the dansk or latrine tower was approached by a long passage carried on piers and arches, the intervening space between the main building and the tower being about 112 ft. In no less than eleven out of the twenty-four castles erected by the Order in Prussia proper, there is a dansk entirely detached from the main buildings with a passage to it on a permanent bridge — a promise of the future development of sanitary science in that land which has not been realised to this day. In the roofs were large lofts for storing grain and other requisites. The hostelry (Mittelschloss) had on the north side the infirmary, on the east the guests' chambers, and on the west the workshops and stables.

Such was the Commandery when in 1309 the Grand Master Siegfried von Feuchtwangen determined to transfer his residence from Venice to Marienburg. At first the buildings were probably large enough to house the Grand Master, with his officers, knights, and retinue, but soon the order attained to such power and wealth that their concomitants, state and luxury, demanded space in the Marienburg. The succeeding Grand Masters, Werner von Orseln (1324–1330) and Luther of Brunswick (1331–1335), altered and added to the Hochschloss, founded the Grand Master's Chapel of St. Anne, and adapted a part of the hostelry to the more pretentious requirements of the Grand Master.

Dietrich von Altenburg (1335–1341) completed the church, built in its present form the main tower, formed the Vorburg (outworks), and surrounded them, and also the town of Marienburg (which was originally called Allyem) with walls and towers.

During the Grand Mastership of Winrich von Kniprode (1352-1383), the great image of the Virgin and Child was set up in the external niche, at the extreme east end of the church and the Grand Master's palace was built. The demolition of the stables and workshops in the hostelry (Mittelschloss) to make room for the palace, necessitated the erection of further buildings in the Vorburg to supply their place.

The defeat of the Grand Master's forces at the battle of Tannenberg in 1410, was the beginning of the end of the power of the Order, but the Marienburg continued to be the Grand Master's residence until 1468, when it fell into the hands of the Poles and thenceforth for three centuries was a Royal palace of the Polish Kings, during which period the castle suffered a great deal from the effects of the ever-recurring wars between the Poles and Swedes, as well as neglect.

In 1772, West Prussia was ceded to Frederick the Great, which did not improve the condition of the Marienburg, as the Grand Master's palace was used as a weaving mill and the Hochschloss as barracks. Thirty years later, the Prussian Government started to adapt the buildings for the purpose of a magazine of war material, and had done irreparable injury to the east wing of the hostelry, when the cry, raised by the poet Schenkendorf put a stop to such vandalism.

The long wars under which Prussia groaned

at the end of the last century and the beginning of this having come to a conclusion with the battle of Waterloo, the remnant of the population which Napoleon had left in that unfortunate country was able to think of something else other than mourning. In 1815 the President of the Province, Von Schön, had the restoration of the Grand Master's palace taken in hand; and later, in 1850, the restoration of the Hochschloss was commenced under the guidance of the architects Von Quast, Voigt, and Gersdorff, in the order named, and is now being carried on to a happy completion under the enthusiastic care of Baurath C. Steinbrecht. It is interesting to know that the late Emperor Frederick and his Consort, the Empress Frederick, were very active patrons of the work of restoration; and, furthermore, that their son, the present Emperor William II., has materially assisted in the work, and his stay at the castle in September, 1894, was the first time the German Emperor had resided there for more than four centuries.

And now for a stroll through the "Alhambra of the North," as the Germans fondly call it, in its present condition. Upon crossing the drawbridge over the outer moat, we pass through the portal into the courtyard of the Mittelschloss. On the left are the guest chambers of the hostelry and the offices of the Grand Commandery still in the form of a magazine. To the right is the infirmary on the north side, and on the west side is the Grand Master's palace. We pass the covered well and enter on the ground level the Knight's Hall, in which the Grand Master entertained his guests.

The hall is about 92 ft. by 43 ft., the beautiful fourteenth-century brick vaulting over which, is carried by three octagonal granite shafts with limestone bases and caps.

It is lighted by eight two-light windows on the west and seven on the east, all having tracery heads. These are unfortunately filled with modern stained glass of very inferior quality. Under the distemper on the walls the remains of frescoes have been discovered, representing incidents in the history of the Order, which Professor Schaper of Hanover is using as an index for the future decoration.

The hall was heated by means of a large earthenware stove, from which flues were formed under the floor as indicated by the earthenware movable discs in the pavement by which the hot air could be let into the apartment. To the north of the hall is the kitchen, with a large brick and tile stove, and in the division wall between the hall and kitchen is a serving hatch. Beneath both these spaces are brick vaulted cellars; the springing of one of these vaults, which is under a shaft in the hall above, is very interesting. Returning into the courtyard, we pass through the watch-room to the main staircase, up which, on the first floor, we reach the Grand Master's apartments.

Going along the beautiful vaulted gallery, lighted towards the north by four tracery windows and to the west by one, and having the vaulting carried on one side by octagonal shafts, partly granite and partly limestone, we come to the Master's Summer Hall, which is about 42 ft. square, and the most beautiful apartment in the palace. The brick vaulting springs from a single granite shaft with limestone moulded cap and base. There are ten two-light square-headed windows to this apartment, having tracery in them. The stained glass is more interesting in respect to the subjects than to the quality. They represent events in the history of the Order, amongst them being one to commemorate the reception of the Earl of Derby, afterwards Henry IV. of England, by the Grand Master, Konrad von Wallenrode, in 1392, at the Marienburg. Anything more beautiful than this chamber, both with regard to proportion and dignity, it is difficult to imagine. Formerly the hall was decorated with colour, of which sufficient has been found under the whitewash to indicate the course to be pursued in the restoration.

To the east of the Summer Hall is the Winter Hall of the Grand Master, which measures about 35 ft. by 37 ft., and is designed in the same way as the former, with the vaulting centering on a single granite octagonal shaft with limestone base and springer, there being no cap. It is lighted by four traceried square-headed windows, and heated by a large earthenware stove with flues under the floor, as previously described. On the walls the remains of the full-length portraits of the Grand Masters have been found, but they are not distinguishable upon the photograph.

Adjoining the last apartment is the Master's parlour and his private room, the latter of which has the vaulting centred on two octagonal granite shafts, having limestone bases and caps. The position of this room gave the Master a view over the courtyard of the Mittelschloss, including the bridge into the Hochschloss.

Crossing the gallery first mentioned at its eastern end, we come to a vestibule from which the house chapel is entered, which is about 32 ft. by 17 ft. This chapel is emphasised externally by projecting in front of the general line, and having a triple gable over it surmounted by a cross. Next to the chapel is the Grand Master's sleeping apartment, with an attendant's and bath-room adjoining, as well as a strong-room. On the north of the Grand Master's bedroom is the armoury, from the east end of which a staircase in the wall leads down to the knights' hall. In an aumbry in the armoury there are several pieces of mediæval plate belonging to the Order, including a beautiful thirteenth-century silver chalice and a "field altar," which was carried with the knights when campaigning.

Before leaving the Grand Master's apartments, I wish to call attention to the ingenuity with which the servants' stairs from the basement are planned, and the hidden passages leading to the serving hatches in the Summer and Winter Halls. The difference of level between the river front and that of the courtyard is so great that another floor is obtained on the Nogat side under the Grand Master's apartments. These were probably occupied by the grand officers.

The elevations towards the courtyard and the Nogat, proclaim the history of the Order by a combination of Saracenic with Venetian and German Gothic, whilst the predominant vertical lines symbolise the Christian, and the general massiveness with the embattlemented parapet, the military aims of the Order.

Considering the poverty of the material at the architect's command, I think that he has invested his design with great dignity, and succeeded in a high degree to give it that architectural character which at once proclaims to the beholder the purposes for which the building was erected.

Crossing the drawbridge at the south-east corner of the Master's Palace, we enter the Hochschloss, or Convent House. I have already described the arrangement of the plan when the Marienburg was a Commandery, and it will, therefore, only be necessary for me to point out the alterations made by the successive Grand Masters, as shown on plans 27, 28, and 29. The solid black on the walls indicates the portions of the old Commandery incorporated with the existing building. The double cross hatched parts* show the alterations and additions that were made between 1300 and 1335, which comprised the pulling down of and rebuilding the walls of the south and east wings next the courtyard, the addition of an extra story to the east, south, west, and part of the north wing, with the alterations on the first floor consequent thereon; the building of the south wall of the new main tower up to the roof; and the almost entire reconstruction of the cloisters and cloister galleries, also the enlargement of the Chapter hall. The single hatched portions of the plan indicate the additions made from 1335 to 1344, and include the building of the Chapel of St. Anne, and the enlargement of the church. All the parts that are dotted on the plans show where stone and granite are used.

On the ground floor the alterations had no further effects on the plan than the completion of the cloisters, as the chapel of St. Anne was built without disturbing the main wall. The three tombs in front of the altar are those of three Grand Masters. As this chapel was built over the whole of the available space between the castle and the moat, it became necessary to have a path through it, hence the doors on the north and south opposite one another. The carved stucco in the north porch is most remarkable.

On the first floor considerable alterations were made. The cloister galleries were rebuilt. The chapter hall was enlarged by adding the former muniment room to it. The brick vaulting is carried by three granite shafts in the centre, having Esthonian marble caps and corbels, also of the latter material, upon which are represented very quaintly (by carving) the virtues of the Order. The bosses are of carved clay burnt, some being covered with tracery whilst others represent the pious deeds of the Brotherhood. The windows are filled with stained glass, having the armorial bearings of the Grand Masters in the designs. Professor Schaper is carefully restoring the full-length portraits of the twenty-three Grand Masters from Heinrich Waldbot to Conrad von Erlichhausen found on the walls.

* Unfortunately the reduction of the plans to a small scale has nearly obliterated these distinctions.—ED.

The extension of the church towards the east was executed, as also the existing vaulting, during the mastership of Dietrich von Altenburg (1335-1341). The church is entered from the cloister gallery by the renowned "Golden Portal," built in 1280. The four illustrations, numbered 36, 37, 38, and 39, respectively represent this beautiful porch, the three first being charming drawings made by Mr. R. Phené Spiers. The carved figures and enrichments are executed in clay burnt, and were originally gilded, hence the name. The interior is 130 ft. long, 30 ft. 6 in. wide, and about 57 ft. high, and is lighted by eight windows at the east end and two in the north side, filled with stained glass, of which part is original. The super-altar is a fine specimen of wood carving. The stalls, rood (with side figures of St. Mary and St. John) and the candelabrum are the mediæval ones and have been most conscientiously restored. The choir gallery at the west end, with a niche above, for a small organ, is very beautiful as well as interesting, being a part of the church of the Commandery. The whole of the colour decorations have been discovered under the distemper. The frieze running all round the church represents in biblical and legendary form the history of the Christian Church, from the Promise of Salvation to the Last Judgment.

The next alteration on this floor was to turn the former fighting gallery of the Commandery into a dormitory, and the former refectory into a day-room or domus conversorum. The officers' apartments on the west side remained very much the same as they were.

The cloister gallery is carried one story higher on the south side of the courtyard than on the others to give access to the refectory and fratery. The former (Ills. 43, 44 and 45) has the brick vaulting centred on seven granite octagonal shafts with stone caps and bases. It is 93 ft. 6 in. long and 29 ft. 6 in. wide, and is lighted by seven windows. In the gallery adjoining is the lavatory, and in the wall between the gallery and the refectory are serving-hatches.

The fratry is the most complete apartment in the building, and has the brick vaulting centred on three granite shafts, with stone caps and bases. The decorations have been executed to accord with the remains of the original scheme of colour. The knights tilting and the effigy of the Grand Master carved in stucco on the north wall, are worthy of remark, especially by the way in which the one knight, regardless of trifles, passes his lance through the springing of the vaulting and yet pegs his man. The fratry has a charming pipers' gallery, which is approached by a stair from the corridor without. The three staircases, one from the church and the others from the chapter hall and fratry respectively, lead to the archers' gallery, which runs all round the building. Round the building, between it and the moat, is the "parcham," which I can only translate as park or terrace. On this terrace, to the south of S. Anne's Chapel, was the place of sepulture of the brethren.

In the east end of the church is the colossal figure of the Madonna and Child in a niche. This figure, which is 28 ft. high, is formed with a core of brick covered with stucco, in which the figures are carved. It is then covered with glass mosaic, the predominant colour being gold. When the morning sun is upon the figure, it is visible for miles over the plains. With regard to the material that was chiefly used in the erection of the buildings of the Order in Prussia, I have a few samples to show you which Baurath Steinbrecht has kindly sent me.

No. 1. is a cusp of grey stucco from one of the fourteenth-century windows. Stone having to be brought for hundreds of miles made it so expensive that a substitute had to be found, and such is the invention that necessity was the mother of. I have seen it in a splendid condition in tracery heads, whilst the stone mullions supporting it have quite perished. The material was made in blocks and, when perfectly dry, carved like stone. When the mass has powdered carbon mixed with it they call it grey stucco (Graustuck); when mixed with ground tile or brick, red stucco (Rothstuck).

No. 2 is a moulded brick taken from a rib of the vaulting over the chapter-hall in the Hochschloss. This brick weighs 8 lbs., and, after immersion in water for 24 hours, absorbed 15½ ozs.

No. 3 is a piece of a limestone base. This stone is used for the capitals and bases of the shafts; in fact, wherever great weight had to be carried or wear withstood. In the thirteenth-century this stone was imported from Esthonia, but in the fourteenth and fifteenth centuries from the Island of Gothland.

TABLE OF CASTLE BUILDINGS

AT THE END OF THE THIRTEENTH CENTURY, IN THE ORDER OF THEIR IMPORTANCE, WITH COMPARISON OF MEASUREMENTS.

		Space enclosed by Fortifications. Sq. Ft.	(Vorburgen) Outworks and Position.	Convent Castle.			Courtyard.		Chapel.		Chapter Hall.		Refectory.		Dormitory.		Officers' Special Apartments. No. of Rooms.	Chief Tower. Form and position.	Latrine Building. Form and position.
				Len.	Bdth.	Area.	Len.	Bdth.	Len.	Bdth.	Len.	Bdth.	Len.	Bdth.	Len.	Bdth.			
CULM	Grand Commanderies.	226,383	Three covering one side of the Castle.	(164)	(164)	(8,202)	—	—	—	—	—	—	—	—	—	—	—	—	—
ELBING		(137,798)	One covering one side of the Castle.	—	—	—	—	—	—	—	—	—	—	—	—	—	Palace in the Outworks (as described).	—	Tower in the Outworks (as described).
BALGA		114,832	Surrounding three sides of the Castle.	(184)	r. 144	8,071	99	r. 66	—	(30)	(59)	(30)					Two sets in the Outworks, each having three rooms.	—	Tower according to Chronicles.
KONIGSBERG	Commanderies of the first class.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	As described in Chronicles.
NESSAU		(52,495)	In front of one side.	(164)	(164)	(8,202)	—	—	—	—	—	—	—	—	—	—	—	—	—
THORN		98,428	Five Vorburgen surrounding three sides.	(164)	(131)	(6,562)	—	—	—	—	—	26	—	—	—	—	—	At the angle.	Tower and passage existing.
GRAUDENZ		22,967	In front of one side.	(164)	(131)	(6,562)	—	—	—	—	—	—	—	—	—	—	—	Round at angle, and detached.	Broad oriel and passage.
ROGGENHAUSEN		196,855	In front of one side.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Over the gate?	—
REDEN		93,506	In front of one side.	172	170	8,957	74	74	75	29	47	28	61	30	59	28	One set of three rooms.	Octagonal at the corner.	Broad oriel and passage.
STRASBURG		68,899	Surrounding two sides.	151	148	6,808	78	62	(73)	(29)	—	—	—	—	—	—	—	Octagonal at the corner, partly attached.	The beginning of passage only existing.
CHRISTBURG		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
MARIENBURG		82,023	In front of one side.	199	170	10,275	108	88	65	33	61	32	59	29	(52)	(29)	Two sets of three rooms.	?	Three towers and passages.
MEWE		67,587	Entirely surrounding Castle.	155	153	7,205	75	62	58	25	59	25	—	—	—	—	—	Pentagonal tower on the corner.	
BRANDENBURG		57,416	In front of one side.	215	170	11,155	125	84	(66)	(27)	?	(28)	(66)	(27)	—	—	—	On the corner.	—
LOCHSTEDT		39,371	In front of one side.	176	156	8,734	99	76	52	25	—	—	53	25	—	—	One set of three rooms.	On the corner.	Passage and tower (as described).
TAPIAU		—	In front of one side.	157	151	7,244	78	69	—	—	—	—	—	—	—	—	Two sets of three rooms each.	—	In the outworks (as described).
BIRGELAU	Commanderies of the second class.	39,371	In front of one side.	164	154	6,562	109	99	—	—	44	25	46	25	—	—	—	—	—
UNISLAW		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PAPAU		59,056	Surrounding two sides.	132	132	5,328	58	58	47	24	46	23	58	23	—	—	—	—	—
LEIPE		42,652	In front of one side.	128	125	4,862	62	59	—	—	—	—	—	—	—	—	—	—	—
SCHÖNSEE		52,495	Two Vorburgen with one forecourt in front of one side.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	The piers of the passage existing.
GOLUB		42,652	One Vorburg in front of one side.	138	129	5,456	74	58	48	23	47	23	48	19	—	—	One set of three rooms.	Round at angle and detached.	—
ENGELSBURG		82,023	Two Vorburgen in front of one side.	—	—	(5,250)	—	—	(58)	(26)	—	—	—	—	—	—	—	—	—
WELSAS		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
ZANTIR		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Approximate dimensions in brackets. Compiled from Steinbrecht.

No. 4 is a piece of a small round granite mullion shaft from the cloisters. This granite is found in large rough blocks, buried in the earth in Prussia, which are called "Granit Findling" or Granite Foundlings.

No. 5 is a glazed tile taken from the ground floor of the Hochschloss.

No. 6 is an ordinary moulded brick taken from the Mittelschloss. It measures 12 in. by 5½ in. by 3½ in., and weighs 13 lb. 6 oz., this weight being increased 1 lb. 11½ oz., after soaking in water for twenty-four hours. With but slight variation the Mediæval bricks found in all these castles are of the dimensions given above.

No. 7.—This is a glazed brick crocket, taken from a gable of the church.

No. 8 is a piece of the Mediæval brickwork, which shows the quality of the mortar. The lime is chalk lime, and is called in Prussia "Lesekalk," or "gathered lime," from the fact that the chalk is found in small pieces on the land, and also beneath the surface, where it was deposited like the granite by some great revolution in nature in ages past.

I must not omit to mention the glazed bricks and roofing-tiles, which fill one with astonishment at the knowledge of chemical technology possessed by the brick manufacturers of the period when these buildings were erected. The glazes are transparent and lustrous to a high degree, and the colours most varied, and, being on the common brick, are much more effective than our modern ones with their evenly pressed surfaces and semi-opaque glazing.

One more item worthy of remark is what I have advisedly called "carved clay burnt," because that described correctly the beautiful examples of terra-cotta that are to be seen in North Germany. The mode of its production was this: The Mediæval workman took a lump of carefully prepared clay and roughly boasted it to the shape he required, and then let it dry. Just before it was absolutely dry he *carved* the design upon it with iron carving tools, and when perfectly dry it was put in the kiln. The consequence is that the piece comes out of the kiln with a perfect skin, which makes it practically imperishable. The figures of the five wise and five foolish virgins, with the other enrichments of the Golden Porch, as well as the bosses and corbels above referred to, were made in this way, which accounts for their good state of preservation. The brickwork is executed in both what we call "Flemish" and "English" bond, with good thick mortar joints.

Having scratched the surface of this immense subject, I hope that some of the younger members of the profession may be induced to take their holiday in Northern Germany, and delve deeper into the mine of architectural wealth existing in the Baltic Provinces. If they do not find what they have been taught to consider the "absolutely beautiful," they certainly will find the picturesque, and will assuredly get lessons in construction and effect with such a poor medium as brick, not to be obtained elsewhere. In the Hanse towns and those founded by the Teutonic Order, such as Lübeck, Ratzeburg, Schwerin, Wismar, Rostock, Stralsund Neu Brandenburg, Stendal, Stargard, Dantzic, Königsberg, Thorn, and many others, there are brick ecclesiastical and domestic buildings of noble dimensions and proportions of the utmost interest to us, of which little is known or cared about by our countrymen. This is a pity, for I am sure that if the new style we yearn for is to be discovered by us at all, it must be developed by the natural Teutonic genius that in us lies. We cannot get it from the Latin genius, however much we may admire its productions; it is not ours. I know this is heresy, but until our professors and authors cease in their endeavours to teach the thrush the nightingale's song, we shall make but poor progress.

It only remains for me to give my best thanks to Mr. R. Phené Spiers for the loan of his drawings, and Herr Baurath C. Steinbrecht for the drawings, photographs, materials, and information he has placed at my command."

Mr. R. Phené Spiers, in proposing a vote of thanks to Mr. Doll, said that during the whole of his membership of the Association he had never heard a paper so full of knowledge, nor seen so small an attendance. Had such a paper been read seven or eight years ago the room would have been full to overflowing, but he supposed there was so much work to be done by young men that it prevented their coming and listening to these papers. At the same time, the paper would receive such publicity through the professional Press that it might be some reward to Mr. Doll for the immense labour he had taken in its preparation, and for bringing so fine a show of photographs. It was more than thirty years since he (the speaker) saw the building, and if it had not been for the evidence of certain of his own drawings he might have forgotten that he had ever been there. It was at the beginning of his long journey, when a student of the Academy, but he was afraid that the attractions of Egypt

and of the Holy Land caused him to forget everything he had previously seen in Germany. Mr. Doll had recommended students to go there, and he could only tell them that his recollection of Marienburg was extremely favourable. It was a quiet place, with an important monumental structure, which could be studied without interference. When he visited it, the building was extremely picturesque, and the various features had been so grouped that telling drawings could be made from almost every point of view. Even the modern bridge was a picturesque structure, and he believed would hold its own in comparison with the Tower Bridge. When he went there he spoke little German, and, as no one understood English, he was thrown on his own resources. He, however, made the acquaintance of the baumeister, or architect, and the captain of the guard, and, with the addition of his landlord, they made up a whist party every night, and he thus learned a good deal more German than he had learned in any other place. With regard to the Chateau, he was afraid the more it was restored the less interesting it would be, and he hoped they would not do more restoration than was absolutely necessary. Speaking from the point of view of criticism with regard to the buildings, there was no doubt the founders had a difficult task before them, with the poor materials at command, in arriving at what would be considered as grand features, and although he did not think they had been quite successful they must give the builders credit for what they did. The square-headed windows in some of the rooms were not quite of happy form, and there was a question as to whether some of these features had been introduced from Venice. On the other hand, in Venice one did not find quite the same stiffness; the upper portions of the windows were always ogee. If they, therefore, introduced the Venetian features they apparently did not know how to employ them successfully. Then again, features of stucco had been used when better effect could have been obtained in brick. The idea was that the brickwork of the Golden Porch was the only instance of carved brickwork in all Germany; but it was not carved brickwork, because he understood that each voussoir was made first in clay and carved and then afterwards burned. There was great credit in having the carving done first, and not after it was burned. Some of the carved brickwork of the present day was extremely beautiful, but he was afraid that in a few years' time there would be very little of it seen, while this brickwork of the middle of the fourteenth century was as sharp as when it was done. He remembered a very unpleasant echo in the rooms of the Castle, so that the Grand Master must have had some difficulty in getting his voice heard. It was possible, however, that when the rooms were furnished and full of people there would not be so much echo. In interiors like these, if the joints could not be shown, some colour decoration, such as that of Santa Anastasia at Verona, would be suitable. The tendency in Germany was to cover the whole surface with colour, and then paint on it.

Mr. Alfred H. Hart (junior hon. sec.), in seconding the vote of thanks, said the members were very much indebted to Mr. Doll, both for his paper and for the excellent illustrations. Mr. Spiers had recommended young students to sketch and study the place, as well as to learn German there. He thought it was very important, when they were sketching, or advising places to be sketched, to consider what was to be learned, and to study principles rather than start sketching at once. It was not always well to get a great deal of sketching done; the thing was to go to a place like this and see if the principles worked upon were justifiable, and suggested anything in the present day, for evidently there was a great deal existing in such buildings which they could not admire. He would like to know if the method of heating referred to by Mr. Doll was derived from the Roman method, which existed in the same form, viz., by flues in the walls and under the floors.

The Chairman apologised, on behalf of the Association, to Mr. Doll for such a poor attendance to hear his admirable paper; in fact, one of the most completely illustrated amongst the many excellent papers they had had. The meetings this session had been exceedingly well attended, and he ventured to think that the cause of the small attendance that evening was not really what Mr. Spiers seemed to think it was, but was due, first, to the exceptionally bad weather, and also to the fact that the Academy drawings were close at hand, and matters of that kind which caused an unusual press. Mr. Doll had frequently mentioned the word "restoration," and it was one which had the same effect on many of them as a red rag to a bull. Mr. Doll had specially thanked the eminent German architect on the carrying out of the restoration, and he should be sorry to tread on his toes in that respect. At the same time he thought that when a remarkable building, which was so completely historical, and of which the records were so complete, got into the hands of the restorers, and their only idea was to reproduce that which could not be reproduced—viz., the work of the past—they might enter a protest against it. He had not been to Marienburg, but he knew the North German towns very well, and the brick-work there. He knew Lübeck before it was "restored," and he was struck with the fact that the restorers knew nothing about the spirit of the brick-work they were dealing with. One of the beauties in this work was the wide mortar joints, and it must have struck them that the set patterns when produced with fine mortar joints must look horrible to the end of time, but when produced with wide mortar joints it was remarkable what a comparatively quiet effect they had, and how the eye was taken off from their mechanical form. In Lübeck very often, in the restorations, this pattern had been deliberately left out, and in addition to that the new brick-work had been produced with narrow mortar joints, and where the pattern was shown the effect was not at all what it was in the past. Mr. Doll had referred to the curious formation of granite found in the fields, but a similar thing occurred in Hertfordshire, where a hard conglomerate was found scattered in the fields, though geologists had no idea how it got there. He would like to know what the field-altar was made of, as it seemed to be an interesting example of military Christianity. The decorative figure, made part of the architecture of the building, so as to be seen at a great distance, was an attempt which appeared to have entirely failed in this case. With regard to the carved terra cotta, he did not know whether Mr. Doll could tell them how cracking was avoided in the drying process.

The vote of thanks was then put, and very heartily received.

Mr. Doll, in reply, said that Baurath Steinbrecht was a man who, he believed, would please even such critics as Mr. Thackeray Turner, and who would not touch a thing if he thought he would do it any injury. The main drawings showed that, though the new brick-work could be seen, there was no attempt whatever to scrape down the old bricks, so as to make them match the new, while the joints had been carefully kept to the same thickness. He agreed that the charm of the building was in the thickness of the joints. He believed it was an opinion expressed by eminent German architects that the windows were really more or less from Venetian architecture. He believed, if Mr. Spiers looked at the decoration of the Fratery, now completed, he would consider it was more satisfactory than what he saw many years ago in Germany. The heating in some cases was done in a large heating chamber, in which there was a great stove, and this had one large flue with smaller ones, branched on the top of the vaulting under the floors. He was sorry that the Chairman had so small an opinion of the way in which the restorations at Lübeck had been done. In many cases it annoyed him very much, but he was happy to say that there were now architects in Germany who began to appreciate what restoration meant, and he was very pleased to hear Professor Schaper, who was at present doing the decoration of the Marienburg, say "don't look at these windows. England is the only country where good modern stained glass can be seen." There was no doubt that the German stained glass of the kaleidoscope type gave one a bilious attack. The field-altar was about one foot long and ten inches high, a triptych in form, having three pinnacles with little figures, one being of the Madonna, another of St. Ann, and a third figure. This was taken by the knights, and placed on a stump driven into the earth, and before it services were conducted in the open field, when campaigning. The altar was made of silver-gilt. He was fully aware of the difficulty in regard to drying clay, and keeping it free of "hair" cracks. He did not know how it was done, but the Germans at the present time manufactured a great deal of terra-cotta in the same way. They mixed as many as twenty-four or twenty-five different clays together, including caolin, which was imported from England. China clay was used with several other clays, one coming from Northern Prussia, and another from Norway, and by a judicious mixture of these clays they were able to dry them without having "hair" cracks. He fancied that with terra-cotta in England the matrix was prepared with too little care and chemical knowledge. He felt sure that if any of the younger members of the profession went to Northern Germany they would find a great deal to interest them there. Somehow or other, in the Press or elsewhere, as soon as German architecture was mentioned there was rather a howl raised. He admitted that buildings of modern German architecture were mostly beyond criticism. They were very bad, and that arose from the fact, he believed, of the extraordinary admiration of the Teutons for the Latin race. He considered that the English text-books were very much to blame, for even in Fergusson's history, before it was revised by Mr. Phené Spiers, the remarks on Westphalian and Saxon buildings were quite inadequate. With regard to picturesqueness of buildings, too, there were few countries which could approach Germany. In Northern Germany, though one might not see what was extremely beautiful, they would observe the most consummate skill in construction. The material used was poor, but the vaulting and the ribbing naturally required the utmost skill in construction. As a matter of construction, then, these buildings were well worthy of a visit. The colour was very fine, and some of the work with the glazed bricks was extremely interesting.

The proceedings then terminated.

THE ARCHITECTURAL ASSOCIATION SPRING VISITS:

BRITISH INSTITUTE OF PREVENTIVE MEDICINE, AND HOUSES, CHELSEA EMBANKMENT.

THE fourth Spring Visit was paid on Saturday last to the British Institute of Preventive Medicine, of which Mr. Alfred Waterhouse, R.A., is the architect. The basement floor is 10 ft. below the street, and is 2 ft. 6 in. above the surface of the cement concrete raft that covers the whole site. This raft is 3 ft. 6 in. thick, and beneath it are piles or piers of concrete, varying in size from 6 ft. square to 6 ft. by 14 ft., spaced 9 ft. apart, and carried down 37 ft. below the basement. The cost of this foundation and the drains, which were put in simultaneously, was 7,000*l.* The damp course is asphalte. The basement is used for students' rooms, a photography room, and lavatories, &c. About two-thirds of the building is now in hand; the extension will contain the principal staircase and a lecture theatre.

The ground floor consists of a central corridor 8 ft. wide, approached by a central vestibule in the centre of the front, and being end lit with rooms on either side. On this floor are also the director's room and laboratory, and his assistant's room facing the street, the large laboratory facing the back. As to the construction, the floors are all fireproof, of coke breeze and steel. For the passages T-irons, 4 in. by 4 in., are used, and here double floors are used, the space between being used as ventilation trunks. The system of ventilation is that of Mr. Langfeild, of Manchester, moist warm air being used with natural extraction by a central exhaust shaft. The lintels to windows, &c., are 3½ in. by 1½ in. steel joist, embedded in concrete cast blocks, one joist block 4½ in. thickness of wall. The door frames are fixed by 2 in. by ⅜ in. iron dogs, 18 in. long, bent 2 in. up and down at either end. The building is faced with Edwards' Ruabon bricks and Ham Hill stone. The clerk of the works, in the unavoidable absence of the architect, conducted the party over the building.

The party next proceeded to the new block of houses on the Chelsea Embankment, of which Mr. Delissa Joseph is the architect. The site is that of the recent Naval Exhibition. It is the freehold of the Chelsea Hospital, and was formerly waste land after being the kitchen garden of Ranelagh House. On the site was a fine cedar tree, planted by Charles I., which has had to be cut down.

A characteristic of the site is its openness, fronting on to the river and backing on to Chelsea Hospital, but it is to be regretted that the present triangular open space in front is to be more or less built upon as it carries a ground-rent of 1,500*l.* a year. The road runs round between the houses and this plot, following the irregular shape of the site, and giving some variety to the range of houses, the end ones enjoying splendid views up and down the river. The foundations are from 20 ft. to 25 ft. below pavement level, and were put in in three months, so as to work under the old Building Act. The

twenty-three houses were completed in thirteen months. As to the houses, there are five types of plans. No. 1 type in the first house, No. 2 in houses 2 to 10, No. 3 in 11 to 14, No. 4 in 22, No. 5 in 23. The feature of all the plans is the size of the hall and staircase. The contract was 90,000*l.* Tea was kindly provided by the architect, after which the members separated.

THE LONDON COUNTY COUNCIL.

THE usual weekly meeting of the London County Council was held on Tuesday in the County Hall, Spring-gardens, Sir Arthur Arnold, Chairman, presiding.

The Works Department.—On the reception of the adjourned report of the Fire Brigade Committee, complaining of the excessive cost of certain jobbing works at fire stations, which had been carried out by the Works Department (see the *Builder* for last week, page 253),

Mr. Roberts said he moved the adjournment last week, but he hoped the Council would receive the report, as there had been sufficient preliminary discussion. It was not to be expected that the Works Department should make any large profit at first on its jobbing work, and the fact that they were now making a profit of three per cent. justified the Council in continuing the experiment. He was rather of opinion that the Works Department, in their desire to renew rather than repair buildings, were responsible for much of the expense referred to.

On the first recommendation of the Fire Brigade Committee, that the instruction given them by the Council to employ the Works Department should be revoked,

Sir J. Hutton pointed out that the new system of a schedule of prices for jobbing works had only been in force nine months. He moved an amendment to refer back the recommendation until they had gained twelve months' experience of the new system. The conclusion at which the committee had arrived was premature, and likely to be prejudicial to the Works Department, and in his opinion that department would compare favourably with contractors.

Mr. Thornton seconded the amendment.

Mr. Urquhart, as Chairman of the Fire Brigade Committee, moved the adjournment of the debate until the second week after the Easter recess, and the motion was seconded by Mr. Corbett, and agreed to.

The counter report of the Works Committee on the same subject was formally received, and the debate was adjourned to the same date as the report of the Fire Brigade Committee.

Fox-court, Holborn.—The Improvements committee reported as follows, the recommendation being agreed to :—

"We have had under consideration a suggestion that Fox-court, Holborn, should be widened at its junction with Brooke-street. Fox-court lies between Gray's-inn-road and Brooke-street, and is about 170 ft. long and about 20 ft. wide. It is open to Gray's-inn-road, and there is an entrance passage from Brooke-street, about 41 ft. 6 in. in length and about 5 ft. in width, under the building occupied by the Holborn branch of the St. Giles Christian Mission. The suggestion is that this entrance passage should be widened to about 17 ft. and be made open to the sky, at an estimated cost of 7,960*l.* In our opinion the improvement would be somewhat of a local character, and we have therefore asked the Holborn District Board whether, in the event of the Council agreeing to carry out the work, the Board would contribute part of the cost. The Board, however, has declined to do so, and we therefore feel compelled to recommend—

'That the widening of Fox-court, Holborn, at its junction with Brooke-street, be not undertaken by the Council.'"

Dwellings, Green-street and Gun-street, Southwark.—The Public Health and Housing Committee recommended, and it was agreed, that, subject to an estimate being submitted to the Council by the Finance Committee as required by the statute, the work of erecting the dwellings on the Green-street and Gun-street, Southwark, sites, acquired under Part III. of the Housing of the Working Classes Act, 1890, be executed by the Council without the intervention of a contractor, and that the plans, specifications, quantities, and estimate be referred to the Works Committee for that purpose; but that in the event of that committee not being satisfied of the sufficiency of the estimate, the Housing of the Working Classes Committee be authorised to invite tenders for the work.

Contracts for Stores.—It was also agreed, on the recommendation of the Stores Committee, that contractors for the supply of general stores (other than clothing, boots, and hats and caps) be required to declare that they pay such rates of wages and observe such hours of labour as are recognised and in practice obtained at the date of the tender by the trades unions of the districts where the work is to be done, and where no trades union exists, such rates of wages and hours of labour as are generally accepted as fair in the trade.

The Council and the East London Water Company.—The Joint Parliamentary and Water Committees reported, in connexion with the East London Waterworks (Height of Supply) Bill, that they had considered the course to be adopted. Under all the circumstances, and having regard to the present position of the water question, the prosecution of the Bill was not likely to be successful, and they thought the Council would be well advised to let it drop. They recommended: "That the East London Waterworks (Height of Supply) Bill be not further proceeded with."

Mr. Leon said the decision of the committee was most unfortunate. Other water companies were bound to supply water up to 70 ft. above the pavement, but the limit of the company was only 40 ft. He moved to refer the report back.

Mr. Ward seconded, and after a short discussion the amendment was put, and adopted.

Proposed Municipal Docks.—Mr. Ben Tillett moved: "That, it being in the best interest of London to improve its port shipping by improved and cheaper dock accommodation, it be referred to the Rivers Committee (1) to submit an estimate of the cost of transferring all dock property of the port to public control, and (2) to report on the advisableness of building new docks and the cost of a site for the same." In the course of his remarks, Mr. Tillett said that if there ever was a case in which the Corporation could have justified its existence, it was over the question of the docks. It, however, allowed the trade of the Port of London to pass out of its hands, and by that act had done considerable injustice to London and injury to the trade of the Thames.

Mr. McDougall moved an amendment to omit all the words after "committee," and to insert after that the words "to report on this subject."

This was seconded by Mr. Payne, and agreed to.

The Council having transacted other business adjourned shortly before 7 o'clock.

THE BUILDERS' CLERKS' BENEVOLENT INSTITUTION:

ANNUAL DINNER.

THE eighteenth annual dinner of the Builders' Clerks' Benevolent Institution was held on Tuesday in the King's Hall, Holborn Restaurant. Mr. B. E. Nightingale, the President, occupied the chair, supported by Mr. C. Wall, the retiring President, and Messrs. C. Bussell, C. Bussell, jun., D. Campbell, W. Downs, Leonard J. Maton, J. Nicholls, A. Nightingale, W. Nightingale, F. S. Oldham, A. Pennington, J. Randall, V.-P., Alex. Ritchie, J.P., T. Stirling, and others, the company numbering about 300.

The royal and patriotic toasts having been honoured (Major E. C. Roe responding for the "Navy, Army, and Reserve Forces"), the President gave the toast of the evening, "The Builders' Clerks' Benevolent Institution." On account of the good work the Institution was doing, and because of the skill, judgment, and economy which were exercised in its management, he most warmly commended the Institution to their careful consideration. From the time it had been established, about 15,000*l.* had been collected, and out of that sum they had been able to elect forty-two pensioners, and give temporary relief to a large number of others. One very remarkable and pleasing fact he would mention, and that was that while their income had been gradually increasing, their expenses in the way of management had been steadily decreasing. In regard to income, they had recently received a legacy from the late Mr. T. Robinson, and it was this form of bequest which they very much desired.

Mr. Downs then proposed the toast of the "Architects and Surveyors," coupled with the name of Mr. A. Pennington. To the architects, he said, they looked for a great portion of their work, and to hold the scale fairly between the builder and the client.

Mr. Pennington, in reply, said that he could quite endorse the previous speaker's remarks about the unreasonableness of some clients. Architects had far more difficulty in adjusting accounts with their clients than with builders.

The next toast was that of the "Builders," proposed by Mr. L. J. Maton and coupled with the name of Mr. J. Randall.

Mr. Randall, in response, said that he wished that more builders would attend the annual dinners of the Institution. He should very much like their Institution to be supported by every builder in London, and also that every builder's clerk should belong to it. With so many builders and builders' clerks in London he very much regretted that the Institution did not receive more support than it did.

Mr. D. Campbell gave the toast of "The Merchants," coupled with the name of Mr. Alex. Ritchie, who, in the course of his reply, said that officialism was so rampant now that merchants would far sooner deal with builders who had intelligent clerks than they would with officialism. In his subsequent remarks the speaker referred in a facetious way to the question of prime cost, asserting that he neither knew, nor could he get anyone to tell him, the meaning of prime cost.

The Secretary and Collector (Mr. H. J. Wheatley) then read the list of subscriptions and donations, to the amount of over 300*l.*, including 25*l.* from the President, ten guineas each from Messrs. J. Randall, Mowlem & Co., J. Aird & Sons, and the Institute of Builders; and five guineas each from the Carpenters' Company, A. W. White & Co., B. J. Hudson, Sir W. Lawrence, Trollope & Sons, E. A. Gruning, T. Rickman, T. L. Green, C. Wall, the Burham Brick, Lime, and Cement Company; and four guineas from Messrs. McDowell, Stevens, & Co.

The concluding toasts were "The Past Presidents," proposed by the Treasurer (Mr. E. Brooks), and responded to by Mr. Chas. Wall; "The President," proposed by Mr. Wall; and "The Visitors," proposed by Mr. F. S. Oldham, and responded to by our representative.

CARPENTERS' HALL LECTURES.

MR. A. R. BINNIE delivered a lecture on the "Blackwall Tunnel," at the Carpenters' Hall, London Wall, on Wednesday evening last. Mr. Henry Clarke, L.C.C., C.C., occupied the chair.

The lecturer said that for the last ninety years the problem of crossing the Thames below London Bridge had engaged the attention of engineers and many others. The first attempt was that of Vazie in 1805 at Limehouse. That tunnel was carried about two-thirds of the way across the river, but unfortunately it was never finished. Then they had Brunel's tunnel between Wapping and Rotherhithe between 1825 and 1842 carried successfully across the river. Between 1869 and 1870 they had the construction of the Tower subway by Messrs. Barlow & Greathead, carried through the London clay 7 ft. in diameter and brought to successful completion. Then they went on to 1887 when the late Metropolitan Board of Works obtained an Act to construct a tunnel at Blackwall. This was situated at a point six miles below London Bridge, one and a half miles below Greenwich and three miles above Woolwich. This tunnel was the subject of the lecture. Describing the various difficulties which surrounded the undertaking, he remarked that the greatest difficulty was the fact that they had to encounter a great bed of gravel, which no doubt represented an older and a larger Thames which had been filled up at some period with gravel. It was clear therefore from the outset that they were about to encounter a work infinitely more difficult than Brunel's tunnel between Wapping and Rotherhithe, or the tunnels under the Mersey and the Severn, inasmuch as they had not a good rocky roof over their heads. It was also evident that they would have to use some apparatus equivalent to the shield which Brunel had found necessary as far back as 1825. To keep out the water it was determined to use compressed air. The total length of the tunnel from its extreme ends was 6,200 ft., the length of the open approaches at either side of the river being 1,735 ft., the cut and cover portion 1,382 ft., and the tunnel proper 3,083 ft. Proceeding to give an outline of the nature of the work and the mode of construction, he explained that the tunnel proper was composed of fourteen segments of cast iron, 6 ft. in length and 2 ft. 6 in. in width, built into a circle. The roadway was 16 ft. in width, and it was anticipated that it would be sufficient for the constant stream of traffic in both directions. The shield used in the construction weighed about 250 tons. The question of using compressed air in this kind of work was one which engaged the attention of the engineers for a considerable time. It became imperative that they should adopt a pressure which was fairly safe under all circumstances, and the one

they adopted was 35 lbs. on the square inch. The progress of the work had varied from 1 ft. to 10 ft. per day, according to the material in which they were working. Although compressed air had been used no deaths had occurred, and be believed they had established the fact that ordinary healthy men could work up to 30 to 35 lbs. on the square inch with perfect freedom and safety if they were supplied with 8,000 to 9,000 cubic feet of air per hour per man. It was interesting to notice the progress that had been made in this kind of work during the last fifty years. Brunel's tunnel at Rotherhithe was about the same length as the Blackwall tunnel. It took nine years to construct the former, whereas it had only taken thirteen months to cross the river at Blackwall. The cost of Brunel's tunnel was at the rate of 1,300*l.* per yard, whereas the cost of the Blackwall tunnel was about 550*l.* per yard.

Mr. Binnie was accorded a hearty vote of thanks for his lecture.

Illustrations.

CHAPEL, DOUGLAS CASTLE, LANARKSHIRE.

THE private chapel at Douglas Castle is a modern structure of brick and stone, and at the time the present works were undertaken was bare of all ornament save for the oak wainscoting. The walls, formerly lined with glazed bricks, have been plastered as a ground for fresco. New steps and floor in marble have been added to the chancel, and the latter divided from the nave by a pair of marble columns.

The retable, in alabaster, provides a background for a future marble altar, and forms a base to a new reredos in oak and ebony, framing some charming painted panels by Mr. C. W. Whall. The new window in the chancel, the whole of the paintings of the roof, and the colour decoration of Mr. Pomeroy's modelled frieze, are also by him.

The whole of the modelled work in frieze and reredos was executed by Mr. Pomeroy, who did much of the modelling on the spot in plaster and gesso.

The original roof corbels, which do not harmonise with the present scheme of decoration, will be removed and others of a different character substituted. The organ-case has been remodelled and what is really an entirely new case, in oak and ebony, has been fixed on the old framework. The chapel is not yet complete. The walls have have to be coloured, candelabra provided, the windows glazed with Mr. Prior's glass in ornamental leading, and other small details which all give completeness to work, which, without them, seems crude and imperfect. The oak and inlay-work, the reredos, and retable, and organ-case, were all admirably done by Messrs. Trask, and the marble work with equal skill by Mr. Davison.

The architect under whose direction the whole was carried out was Mr. H. Wilson.

The work is an interesting example of what we want to see more of; a building carried out and decorated by architect, sculptor, and painter working in conjunction with each other.

REGISTRATION OF PLUMBERS.

A MASS meeting of plumbers was held on Wednesday, at the Town Hall, High-street, Kensington, to protest against the Registration of Plumbers' Bill, introduced by the Worshipful Company of Plumbers, and now down for second reading in the House of Commons. The chair was occupied by Mr. W. Beecroft.

Mr. P. J. Davies read a paper giving a history of the registration movement, and criticising in detail the Bill of the Plumbers' Company. In the course of his remarks he said that the Bill was a one-sided affair, and did not in any sense represent the feelings of the trade. They were not opposed to registration, but they did not desire registration to be compulsory; and what they desired was a scheme of registration that would really come from masters and journeymen plumbers. If the Bill, which had been framed by an outside body, was rejected, it was hoped that the master plumbers and journeymen would start a registration scheme of their own.

Mr. A. Cordell also read a paper criticising the clauses of the Bill, after which the following resolution was submitted to the meeting:—

"That in the opinion of this mass meeting of Operative Plumbers of London and district, the Plumbers' Company Registration Bill for plumbers now before the House of Commons will tend to create a monopoly in the hands of master plumbers and so-called sanitary engineers. Also that we consider it to be an unwarrantable interference with the rights of the non-registered plumber obtaining his living at the trade of a plumber, by compelling him from necessity to become registered under the registration scheme. Moreover, we do not consider, from a practical knowledge of the conditions of the trade, that the passing of the Bill will afford any additional safeguards to the public health, and can but result in an increased competition in the ranks of operative plumbers, to the detriment of the trade. This mass meeting therefore calls upon the House of Commons to reject the Bill."

The following amendment was moved, but did not receive the support of the meeting:—

"1. That this meeting approves of the principle of the National Registration of Plumbers, and appoints six representatives to represent this meeting, with powers to confer with the London Lodges and Plumbers' Company, and to arrange amendment, if any, in the Plumbers' Registration Bill now before Parliament. 2. That the fee payable by the operative plumbers for registration shall not exceed 2s. 6d., with an annual subscription of 2s. 6d."

The resolution was then agreed to, and after some discussion the meeting terminated.

ARCHÆOLOGICAL SOCIETIES.

BRITISH ARCHÆOLOGICAL ASSOCIATION.—The eighth meeting of the session of this Association was held at 32, Sackville-street, Piccadilly, on the 18th inst., the Rev. J. Cave Browne, M.A., in the chair. An interesting collection of curiosities was submitted for inspection. Mr. Patrick, hon. sec., exhibited the following articles:—An oval tortoiseshell snuff-box, mounted in silver, bearing upon the lid a medallion portrait of King Charles I., also in silver, and on the underside of the lid the letters "R. B." and "R. B." reversed, united by a ribbon knot: it is thought to be a presentation snuff-box from the King to a friend or favourite courtier; a profile medallion portrait of the King, in silver, attached to a stem, and apparently forming a tobacco stopper; a beautifully carved ivory group, illustrative of the Presentation in the Temple, once forming a leaf of a Triptych, with traces of gilding and colour still remaining upon it: it is of the time of Edward III.; also a circular enamelled plaque of Byzantine character, and a curious badge of bronze composed of various musical instruments arranged in ornamental forms: this was found many years ago at a considerable depth below the surface in Newgate-street, City. Mr. F. Sills submitted a collection of seventeenth century Dutch tiles, and Mr. Barrett a tile from Godstow nunnery. In the absence of the author (Dr. Fryer) Mr. Patrick read a paper upon recent excavations in Awatobi and Sikyathi, on the north coast of Arizona. Mr. R. B. Barrett read some notes upon a historic table preserved in the vaults of the Keep of Chester Castle, which is supposed to be the actual altar used by Mary Queen of Scots during her confinement in the Castle. It is of oak, and Mr. Barrett's etching showed it to be very roughly put together, evidently for temporary use. Five pieces of stone, bearing the consecrated crosses, were once let into the top, and they are said still to be preserved at Rome.

ARCHITECTURAL SOCIETIES.

LEEDS AND YORKSHIRE ARCHITECTURAL SOCIETY.—The annual meeting of the Leeds and Yorkshire Architectural Society took place on the 23rd inst. in the Mechanics' Institution, Cookridge-street, Leeds, Mr. E. J. Dodgshun presiding. The officers were elected for the ensuing year as follows:—President, Mr. Wm. Watson, Wakefield; vice-presidents, Mr. W. S. Braithwaite and Mr. W. A. Hobson; hon. treasurer, Mr. W. H. Thorp; hon. librarian, Mr. W. H. Beevers; hon. secretary, Mr. F. W. Bedford; hon. auditors, Mr. L. S. Dodgshun and Mr. M. F. Musto; council, Mr. H. B. Buckley, Mr. Carby Hall, Mr. James Ledingham (Bradford), Mr. Butler Wilson, Mr. C. B. Howdill, and Mr. G. F. Danby. Mr. F. W. Bedford submitted the annual report, showing that the number of members was 110, as against 108 last year. This, together with a statement of accounts, read by Mr. Thorp, hon. treasurer, was adopted, on the motion of the chairman. Mr. Thorp said the Council had that afternoon considered proposals for the laying out of City-square, certain plans and suggestions having been submitted by members. In both the plans submitted a monumental group of sculpture stood in the centre of the ground. To define the square and enclose it to some extent it was proposed that there should be granite posts connected by chains, and that flanking the sides of the openings into the enclosures there should be well-elevated pedestals to form the bases of electric light standards. It was further proposed to leave the entire space within the enclosure, excepting where the monument would stand, free. Seats might be put in it, however, and it was suggested that suitable trees should be planted between the seats or placed in circular boxes. A sketch model of the central monument was produced, and it was decided to adopt it as conveying some idea of the treatment. The chief figure, a pack horse ridden by a cloth merchant in the costume of the last century, suggested the principal industry of the town in early times. This stood on an elevated architectural composition, with figures at the four corners. The materials suggested were bronze for the equestrian statue, the figures at angles, the bas-relief panels, the capitals of columns, and the enrichment of the frieze, and granite for the remainder. It was suggested that the figures at the four angles should represent Ralph Thoresby, the historian and antiquary; John Smeaton, the builder of the first Eddystone lighthouse, who was born at Whitkirk; John Harrison, the philanthropist, in his mayoral robes; and Priestley, the scientist. The Society propose to lay the plans and suggestions before the City Council at the earliest opportunity.

CARLISLE ARCHITECTURAL, ENGINEERING AND SURVEYING SOCIETY.—A meeting of this Society was held in the Town Hall on the 24th inst., Mr. F. J. Nickols (President) in the chair. A paper was read by Mr. H. Lees on "Construction of Ornament." Mr. Lees began by describing the manner in which a designer should work, and pointed out the beauty of Gothic mouldings and the shadows cast by them. The lecturer explained the importance of studying plant form before designing it. He also described and drew out various forms of good and bad construction and the importance of symmetry, distribution, and harmony of line in designing ornament, and the faults of over-decoration.

COMPETITIONS.

NEW SCHOOLS, PENARTH.—In the recent Penarth Board School competition, confined to local architects, the design submitted by Mr. J. H. Phillips, of St. John's-chambers, Cardiff, was placed first by the assessor, Mr. E. R. Robson, London, and the Board have since appointed Mr. Phillips to carry out the work.

Correspondence.

To the Editor of THE BUILDER.

ARCHITECTS AND ADVERTISING.

SIR,—Should you think it worth referring again—as you have usefully done before—to the advertising practices of some architects, you will find a notable illustration in Piccadilly, where, on a huge white placard, some 30 ft. long I should say, the following appears in large and conspicuous black letters:—

"PRINCE'S HALL RESTAURANT
WILL BE OPENED EARLY IN MAY,"

followed by the name and address of the architects, in equally conspicuous letters. This advertisement, obnoxious enough in itself, is rendered doubly offensive from the circumstance that the building to which it refers, although apparently undergoing alterations by the advertising architects, is not their work, but was designed by a brother architect, Mr. E. R. Robson. I was willing to believe that the names of the architects had been advertised through inadvertence, and without their knowledge, but this charitable view is scarcely consistent with the fact that the advertisement has been allowed to remain two or three weeks *in situ*, though within a stone's throw of their office.

It is deplorable that architects of respectability should indulge in this modern and reprehensible practice of advertising themselves. "To my mind, 'tis a custom more honoured in the breach than the observance," both from a professional and a personal point of view.

J. MACVICAR ANDERSON.

6, *Stratton-street, W.*, March 18, 1896.

*** We think it very possible that the architects

have overlooked the display of their names; but in any case architects should keep their eyes open to such practices, which are calculated to reflect so much discredit on the profession, and put a summary stop to them.—ED.

THE JANDUS ARC LAMP.

SIR,—We have read with interest your criticism of the report issued by Professors Houston and Kennelly concerning the "Manhattan" arc lamp, known in Europe as the "Jandus," for which we are the sole selling agents.

We hope you will allow us to take exception to your statement "that these tests are misleading inasmuch as the Jandus arc lamp was enclosed in two clear glass globes, whereas the common arc lamp had no globe of any kind." This, we can assure you, would not affect the proportion of light given at different angles, although it, of course, acted as a handicap to the Jandus, whose light was subjected to double loss in passing through the two globes. As a matter of fact, the diffusion is better, owing to the much larger surface from which the light is emitted. We are daily receiving testimonials on this point, and any one who has seen the arc lamps burning together cannot have failed to be struck with the way in which the whole globe is illuminated, and the entire absence of shadows even close under the lamp itself.

You also state that "there is no attempt made to calculate the efficiency of the lamp," from which we think the report cannot have been read as carefully as we should have wished, for the whole object of the report is to make a comparison of the light given by the Jandus as against the ordinary lamp.

The conclusion of the professors is that the Jandus lamp, consuming 5·6 amperes at 110 volts or 616 watts, gives a maximum candle-power of 1,300 British candles, which is greater than they were ever able to obtain in 400 observations of the other lamps.

DRAKE & GORHAM.

The Student's Column.

CARPENTRY AND JOINERY.—XII.

FLOORS.

THE assemblage of timbers used for supporting the floor boards and ceiling of a room is called "naked flooring," and the construction of such timbers may be conveniently grouped under:—1. Single-joisted floors. 2. Double floors. 3. Framed floors. 4. Composite floors. 5. Wood fire-resisting floors. 6. General remarks.

1. A SINGLE FLOOR consists, as its name implies, of one series of common or bridging joists. Fig. 143 shows a floor of this description in isometrical projection. Such a construction, it is affirmed, makes a much stronger floor with the same quantity of timber than a double or framed floor, but the great objection is that plaster ceilings are more liable to cracks from sudden jars from this form of floor, especially when used for long bearings. In order to make a stiff floor the joists should be thin and deep rather than thick and shallow; the least thickness which can well be employed is 2 in., as it is found that joists of a less thickness split when floor boards are nailed to them. In cases where joists cannot rest direct on the walls, as, for instance, where flues, fireplaces, or openings for staircases occur, a piece of timber called a *trimmer*, T, is framed between two of the nearest joists which pass such an obstruction and which have a bearing on the wall; these are strengthened for the purpose and called *trimming joists*, TJ. The intervening joists are tenoned into the trimmer.

The trimming joists must necessarily be made stronger in order to carry the extra weight thus put upon them, and in practice are usually made 1 in. thicker; although Tredgold's rule that $\frac{1}{8}$-in. should be added to the trimming joist for each joist supported by the trimmer would seem to be sufficient.

In order to prevent joists having a tendency to topple over or twist sideways, in cases where they exceed 8 ft. in span, a row of strutting should be introduced between them, this also serves to stiffen the whole floor and equilibrate the pressure. When the bearing exceeds 12 ft., two rows of struts become necessary, another row being provided for every 4 ft. of bearing.

There are two methods of strutting in general use:—Pieces of joisting about the same depth as the joists themselves, and what is known as herring-bone strutting, formed of slips of wood as shown placed crossways and nailed between the joists. It is evident that single-joisted floors can be constructed to any length that joists can be obtained in one piece.

Tredgold recommends that 10 ft. should not be exceeded, as the strains produced by heavy furniture are liable to crack the ceiling below; but Tredgold always errs considerably on the side of strength and in practice, single-joisted floors are used in dwelling-houses for floors up to 15 ft. or 16 ft., which is the width of an ordinary dining-room.

In order to prevent the passage of sound from one story to another, pugging is sometimes resorted to. This consists in nailing rough fillets half way down on each side of the joists, on these fillets are laid pieces of board which either support coarse plaster or concrete; as these, however, are liable to injure the joists by damp, a far better method is to place a layer of slag-wool (silicate of cotton) on the boards, as it is more effectively sound proof, sufficiently light, and vermin proof.

In ground-floors the joists are generally supported on sleeper walls, and the span of the room being thus reduced the scantling of the joists can be considerably reduced. The lower part of fig. 143 shows a ground-floor supported in this manner. The joists are laid direct on to wall-plates resting on these walls; where fireplaces occur, it is usual to support the hearth on *fender walls* as shown, which then enables the hearth to be supported in a solid manner, and does not require the trimming necessary for upper floors.

A Table of Scantlings for Bridging Joists is here given, being revised from Tredgold:—

Bearing in feet.	Breadth, 1½ in.	Breadth, 2 in.	Breadth, 2½ in.	Breadth, 3 in.	Breadth, 3½ in.	Breadth, 4 in.
	Depth in inches.	Depth in inches	Depth in inches.	Depth in inches.	Depth in inches.	Depth in inches.
5	5⅜	5¼	4⅜	4⅜	4⅛	4
6	6¼	5⅞	5⅛	5	4⅞	4½
7	7	6½	6	5½	5½	5
8	7⅜	7	6½	6¼	5⅞	5¼
9	8½	7½	6⅞	6½	6	5⅞
10	9	8	7½	7	6¾	6½
11	9½	8⅜	8	7½	7	6¾
12	10	9½	8½	8	7½	7½
13	10¾	9⅜	9	8½	8	7¾
14	11	10	9½	9	8¼	8
15	11½	10½	9⅞	9¼	8½	8½
16	12¼	11	10⅜	9½	9¼	8¾
17	12⅜	11½	10⅞	10¼	9½	9¼
18	13¼	12	11¼	10⅜	10	9½
19	13¾	12½	11½	10⅞	10¼	10
20	14¼	13	12	11¼	10⅝	10¼

Tredgold gives these as being spaced 12 in. apart from centre to centre, but they may be, and in fact are usually, spaced 12 in. apart in the clear. Although the scantlings are given up to 20 ft., it is seldom that this type of flooring is used for more than 15 ft. span.

Tredgold formula for the scantlings of common joists is as follows, where L = length in feet; B = breadth in inches; D = depth in inches:—

$$D = 3\sqrt{\frac{L^2}{B}} \times 2{\cdot}2 \text{ for fir, or } 2{\cdot}3 \text{ for oak.}$$

2. DOUBLE FLOORS are used for spans over 15 ft. or 16 ft., the object being to reduce the bearing of the common or bridging joist. For this reason *binders*, fig. 144, are placed across the room to be floored at distances from 6 ft. to 10 ft., and the bridging joists are laid across these as shown in the illustration.

As the whole weight of the floor comes upon these binding joists, care should be taken that they are not placed over openings, but upon the piers between such openings. The distance between the binders is of course regulated by the distribution of solids and voids, and must be carefully considered by the architect. For this reason a double floor is often more satisfactory than a single floor, as it brings the pressure on to points calculated to receive it. The binders should rest on stone templates placed in a recess in the wall, thus allowing of an air space all round the ends of the binder, and preventing decay or dry rot. The common joists are either notched as shown in fig. 144, and supported on fillets nailed to the side of the binder, or the binder is notched and the common joists laid across. As it is necessary to weaken the binder as little as possible, the former is the better method. In double floors the ceiling may be placed on the underside of the common joists, and the binder treated so as to be visible below; or ceiling joists are placed from binder to binder, and fixed in some cases by means of a chase-mortise, as shown in fig. 43 in a previous article. One advantage of this form of floor is that the passage of sound from one room to another is reduced to a minimum by the air space formed between the ceiling joists and bridging joists; the latter are stiffened by having a bearing of not more than 10 ft., and the ceilings in consequence are not so liable to crack from vibration.

A table of scantlings for binding joists is given below. Tredgold's rule for scantlings of binders, 6 ft. apart, where D = depth in inches, B = breadth in inches, L = length in feet.

$$D = \sqrt[3]{\frac{L^2}{B}} \times 3{\cdot}42 \text{ for fir, or } 3{\cdot}53 \text{ for oak.}$$

$$B = \frac{L^2}{D^2} \times 40 \text{ for fir, or } \times 44 \text{ for oak.}$$

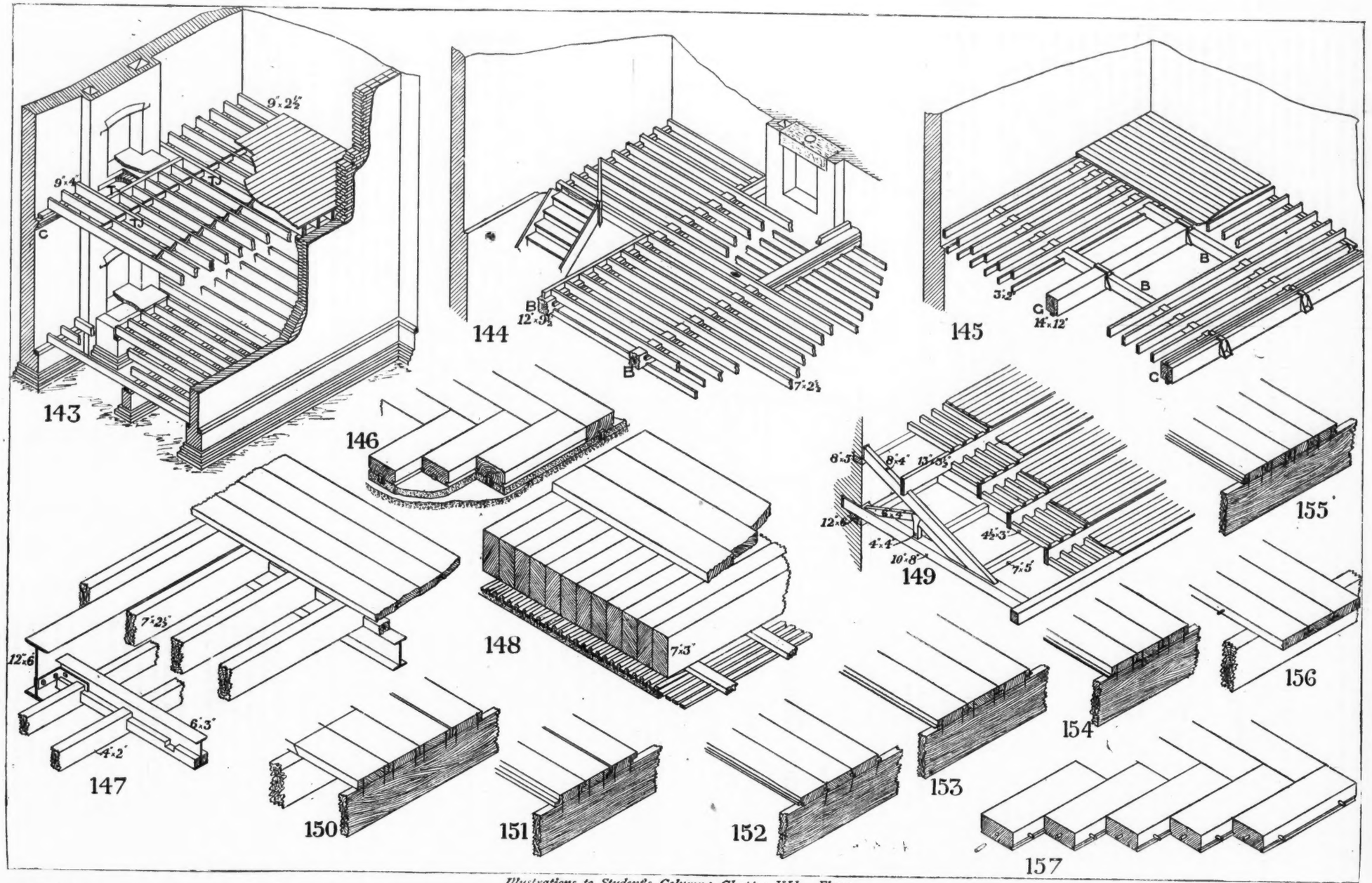
3. FRAMED FLOORS.—This type of floor (fig. 145) is used for spans of large dimensions, and consists of girders, binders, and bridging joists. The girders are usually placed about 10 ft. apart from centre to centre, or as dictated by the exigencies of the plan.

The following is for girders of Baltic yellow pine 10 ft. from centre to centre.

The girders either have the binders, B, framed into them by means of a short tenon known as a "stub-tenon," or—what is more frequently adopted nowadays—an iron stirrup is placed over the girder, as shown in the figure, and in this stirrup the binder rests. This is a much

BINDING JOISTS OF BALTIC YELLOW FIR. DISTANCE FROM CENTRE TO CENTRE, 6 FT.

Bearing in feet.	Depth, 6 in.	Depth, 7 in.	Depth, 8 in.	Depth, 9 in.	Depth, 10 in.	Depth, 11 in.	Depth, 12 in.
	Breadth in Inches.	Breadth in inches.	Breadth in inches.	Breadth in inches.	Breadth in inches.	Breadth in inches.	Breadth in inches.
5	4⅜	3	2	—	—	—	—
6	6¾	4	3	2	—	—	—
7	—	5½	4	2¾	2	—	—
8	—	7	5¼	3⅞	2¾	2	—
9	—	—	6½	4½	3½	2½	—
10	—	8	5½	4	3	2½	—
11	Depth, 13 in.	Depth, 14 in.	Depth, 15 in.	6¾	5	3¾	3
12	—	—	—	8	6	4½	3½
13	Breadth in inches.	Breadth in inches.	Breadth in inches.	—	7	5¼	4
14				—	8	5¾	4½
15	4	3½	2⅝	—	9	6¾	5¼
16	4½	3⅞	3	—	10¼	7¼	6
17	5¼	4½	3½	—	—	8¼	6¾
18	5¾	4⅞	4	—	—	10	7½
19	6½	5½	4¼	—	—	—	8½
20	7¼	6	4¾	—	—	—	9½



Illustrations to Student's Column: Chapter XII.—Floors.

143. Single floor.
144. Double floor.
145. Double framed floor.
146. Geary's patent wood-block floor.
147. Composite floor.
148. Fire-resisting floor.
149. Gallery floor.
150. Plain or butt-jointed flooring.
151. Rebated flooring.
152. Rebated, grooved, and tongued flooring.
153. Ploughed and tongued flooring.
154. Rebated and filleted flooring.
155. Grooved and tongued flooring.
156. Dowelled flooring.
157. Duffy's [illegible] block flooring.

better method, as the girder is not weakened in any way by being cut into to form the mortise, and it should always be employed in a bearing of any size, in preference to the old-fashioned mortise and tenon. When, however, the mortise and tenon is used, the joints of two opposing binders should not be placed opposite each other, as this would weaken the girder too much, but should be placed in intermediate positions.

Tredfold's rule for scantlings of girders are :—

$$D = \sqrt[3]{\frac{L^2}{B}} \times 4{\cdot}2 \text{ for fir or } \times 4{\cdot}34 \text{ for oak.}$$

$$B = \frac{L^2}{D^3} \times 74 \text{ for fir or } \times 82 \text{ for oak.}$$

4. COMPOSITE FLOORS.—By the increasing use of iron and steel in buildings, it has become usual to employ girders of these materials in spans over 16 ft., especially in towns where they are easily procurable, and as the carpenter has to fix his joisting to these girders, it has been thought advisable to consider these under the heading of composite floors. Fig. 147 shows their general setting out, in which it will be seen that the common or bridging joists are fixed or spiked to wood plates, which are bolted to the iron joists. This method of construction is being extensively used, and may be said to have superseded the old timber forms, where iron is attainable.

The strengthening and trussing of girders has been taken under a special article, specially devoted to that subject, and need not here be referred to.

5. FIRE-RESISTING WOOD FLOORS.—A form of floor which has been used occasionally, and which has much to recommeed it, is that shown in the accompanying sketch (fig. 148). The patent was originally taken out by Messrs. Evans & Swain. It will be seen that the joists are laid alongside touching one another. The depth of the joists in a construction of this kind varies from 4½ in. in a span of 8 ft., to 11 in. in a span of 30 ft. The underside may be planed and left visible, or provided with a plaster ceiling, in which case the key is obtained by counter-lathing, as shown. This system of construction is largely in use in the New England States of America, and is employed there for the floors of warehouses.

In one example which came under the writer's notice the floors were constructed of 9 in. by 3 in. joists, touching each other ; over these was placed a layer of asbestos paper and two layers of floor boarding, with their joints running in the opposite direction. The joists were supported on wooden beams resting on oak uprights, which were 2 ft. 6 in. square in the basement.

As showing the belief in this system as a fire-resisting construction, the American insurance companies give preferential rates for buildings of this class.

6. GENERAL REMARKS. — Girders should never, if possible, be laid over openings, but where it is unavoidable, the plates should be strong enough, or should be supported sufficiently to place the weight on the piers. *Ceiling-joists* for double and framed floors are generally of stuff about 3 ft. by 2 ft., or some such scantling as will cut out of a deal without waste. They should be supported at least every eight or ten feet. In single floors they are frequently dispensed with, the lathing and plastering being fixed to the underside of the floor-joists. They should not be placed further apart than 14 in. centre to centre, and in single floors, every fifth or sixth bridging joists is often made 2 in. deeper than the other joists, and the ceiling joists are affixed to these.

Wall-plates should, of course, be made stronger, as the span becomes, longer and the following scantlings are recommended.

For a 20 ft. bearing, wall-plates 4½ by 3.
" 30 ft. " " 6 by 4.
" 40 ft. " " 7½ by 5.

When not of sufficient length, they are connected by means of halving, bevelled halving, or dove-tailed notching ; these joints are shown in the article on joints used in carpentry. The joists are either spiked on to the wall-plates, which is the most usual way, or they are notched and nailed. Wall-plates may either rest on offsets from the wall, as in the ground story (fig. 143) or they may rest on corbels of brickwork, made to receive them, as shown at C, either of which is much better than the usual method of resting them on the inner part of the wall thus interfering with the general thickness of the wall. In alterations or additions, or in rebuilding where party walls already exist, a good plan is to insert heavy angle irons at intervals, into which the wall-plates rest.

TRIMMING.—It has been explained that where flues occur, it is necessary, in order to prevent the ends of joists entering them, to trim round these obstructions. Trimming has also to be executed for openings in floors, as where stair-cases (fig. 144) or trap-doors occur. The illustration (fig. 143) shews the method adopted in order to avoid a fireplace, and the method of forming the trimmer arch to support the stone hearth. According to the London Building Act, 1894, the hearthstone has to be 12 in. longer than the width of the chimney-opening, and to be at least 18 in. in front of the breast, so this regulates the size of the space to be trimmed. The brick-trimmer arch is thrown from the brickwork of the breast to the "trimmer," and sometimes it is supported by means of a fillet formed as a skew-back to the side of the trimmer. In cases where there are no ceiling-joists, what are known as "filling-in" pieces are inserted to support the laths for the plastering of the ceiling. The method shown of forming a trimmer arch refers to a case in which the joists run at right angles to the wall, when they are parallel the trimmer arch is turned against one of the continuous joists which becomes the trimming joist, and short trimmers are carried from this to the wall. It may be mentioned that trimmer arches are being less used, their place being taken by coke breeze concrete, which is supported on fillets nailed to the joists surrounding the opening.

It has already been intimated that timbers should have a clear space all round their ends to prevent decay ; in no case should they be allowed to be built into the wall. In addition all floors should be thoroughly ventilated by means of air bricks in the outer walls so as to ensure a through current of air. For the same reason care should be taken to leave holes in the sleeper walls. For the sake of economy joists should be placed the narrowest way of the room and should be used so as to form a tie to the enclosing walls. This is a very important point and contributes largely to the stability of the building. For this reason joists may, with advantage, be made to go in different directions over each floor to form horizontal ties at points in the height of the building. Those who have travelled on the Continent, especially in Belgium and Holland, will have noticed the charmingly designed iron ties on the face of the brickwork, these are connected with the floors by means of bolts and therefore conduce to the stability of the wall.

7. GALLERY FLOORS.—Gallery floors may be either held upon cantilever trusses, or supported in some such way as shewn in our illustration, fig. 149, which is one of the trusses of the side gallery of a chapel. The framing should be strong and secure, as galleries are frequently crowded with a large number of people. The illustration is merely given as an example, each case has to be specially provided for. The sizes are in some cases governed by rules, as children's galleries in Board Schools under the Education Department. The scantlings are marked on the example given.

Having touched on the various forms of *naked flooring* in general use, we may now proceed fitly to discuss floor coverings.

Bearing in feet.	Depth 10 in.	Depth 11 in.	Depth 12 in.	Depth 13 in.	Depth 14 in.	Depth 15 in.	Depth 16 in.	Depth 17 in.	Depth 18 in.
	Breadth in inches.	Breadth in inches.	Breadth in inches.	Breadth in inches.	Breadth in inches.	Breadth in inches.	Breadth in inches.	Breadth in inches.	Breadth in inches.
10	7½	5½	4	3½	2¾	2¼	1¾	1½	1¼
11	9	6¾	5	4¼	3½	2¾	2¼	1¾	1¾
12	10½	8	5¾	5	3¾	3¼	2¾	2¼	2
13	12½	9½	6¾	5¾	4½	3¾	3	2½	2¼
14	14½	10¾	7¾	6¾	5¼	4½	3½	3	2½
15	16½	12½	9	7¾	6	5	4	3½	3
16	18½	14	10¼	8¾	7	5¾	4¾	4	3¼
17	—	16	11¾	9¾	8	6¾	5¼	4½	3¾
18	—	17¾	13	11	8¾	7¼	6	5	4
19	—	19¾	14½	12	9¾	8	6½	5½	4¾
20	—	—	16	13½	10¾	9	7¼	6	5¼
21	—	—	17½	15	12	9¾	8	6¾	5¾
22	—	—	19¾	16½	13	10¾	8¾	7½	6¼
23	Depth	Depth	Depth	18	14½	11¾	9½	8	6¾
24	19 in.	20 in.	21 in.	19½	15¾	12¾	10½	8¾	7½
25	—	—	—	—	16¾	13¾	14½	9¾	8
26	Breadth	Breadth	Breadth	—	18¼	15	12¼	10¼	8¼
27	in	in	in	—	19¾	16	13	11	9¼
28	inches.	inches.	inches.	—	—	17¼	14¼	11¾	10
29	—	—	—	—	—	18¼	15¼	12¾	10¾
30	9¾	8½	7¼	—	—	19¾	16¼	13½	11¼
31	10¼	9	7¾	—	—	—	17¼	14½	12¼
32	11	9½	8¼	—	—	—	18½	15½	13
33	11½	10	8¾	—	—	—	19¾	16½	14
34	12¼	10¾	9½	—	—	—	—	17¼	14¾
35	13¼	11½	10	—	—	—	—	18¼	15¼
36	14	12	10½	—	—	—	—	19¼	16½

APPLICATIONS UNDER THE 1894 LONDON BUILDING ACT.

AT the meeting of the London County Council on Tuesday, the following recommendations, made by the Building Act Committee, were agreed to, subject to certain conditions :—

Lines of Frontage.

Norwood.—That consent be given to the erection of a four-story addition upon a portion of the fore-court of No. 126, Hamilton-road, West Norwood, on the application of Mr. W. H. Callow.

St. George, Hanover-square.—That consent be given to the erection of a projecting wooden oriel at the first-floor level in front of No. 14, Pitt's-head-mews, Park-lane, on the application of Mr. W. Flockhart.

Width of Way.

Dulwich.—That consent be not given to the widening of Boxall-row, Turney-road, Dulwich, and the erection of buildings there, on the further application of Mr. C. Barry, on behalf of the Governors of Dulwich College.

Line of Fronts and Width of Way.

Hackney, South.—That consent be given to the erection of houses, with one story shops in front, on the east side of Lower Clapton-road, between Bishop Wood's Almshouses and Millfields-road, and with the flanks of the two buildings at the entrance to Mildenhall-road, in advance of the existing frontage in that road, also for the widening of a portion of Millfields-road, on the further application of Messrs. Longbourne, Stevens, & Powell, on behalf of Mr. J. D. Powell.

Formation of Streets.

Hackney, South.—Tha an order be sealed and issued to Messrs. F. Chambers & Son, sanctioning the formation or laying out of streets, 40 ft. wide, for carriage traffic, to lead out of Cornthwaite-road, Lower Clapton, and the widening of a portion of Millfields-road, on the further application to the Council, on behalf of Messrs. Longbourne, Stevens & Powell. That the names of Mildenhall-road (in continuation), Chailey-street, Thornby-street, and Fletching-street be approved for the new streets.

Lewisham.—That an order be issued to Mr. W. H. Collier refusing to sanction the formation or laying out for carriage traffic of streets, 40 ft. wide, to lead out of Tyrwhitt-road and Loampit-hill, on his application to the Council ; and that notice of such order be given to the applicant, with an intimation that the reason for such refusal is that in the opinion of the Council the streets would not all form direct communication between two streets ; and, moreover, it is considered that the street proposed to be named Shell-street should be omitted from the scheme, and that the solicitor should be satisfied by the applicant that he has control over all outlets from the proposed streets into existing roads.

FIRE AT A BUILDER'S PREMISES, BLACKHEATH.—A fire broke out about three o'clock on the morning of the 20th inst. on the premises of Mr. John Dallow, builder and contractor, Blackheath. The works were completely gutted, and some valuable machinery which they contained was seriously damaged. In addition, some property adjoining the premises was damaged.

OBITUARY.

M. EMILE BŒSWILWALD.—We greatly regret to record the death of this well-known French architect, one of the most eminent professional members of the Commission des Monuments Historiques, and whose name has been connected with many important restorations of ancient buildings in France. M. Bœswilwald was born at Strasbourg on March 2, 1815, and received his artistic education in his native town, and subsequently at the Ecole des Beaux Arts at Paris. In 1843 he was attached to the "Commission des Monuments Historiques," and in 1845 was appointed "Inspecteur des Travaux" at Nôtre Dame. He was appointed a Diocesan architect in 1849, and was successively entrusted with the direction of the works at the churches of Soissons, Bayonne, and Orléans. The restorations carried out by him in the course of his long career have been numerous. His name is especially connected with the restoration of Laon Cathedral, his drawings for which were exhibited at the Salon in 1844, and at the Universal Exhibition in 1855. He was also concerned in the restoration of the churches of Niederhaslach und Neuviller (Lower Rhine), and in that of the palace of the Dukes of Lorraine at Nancy. M. Bœswilwald received medals at the Salons of 1849, 1853, and 1855. In 1853 he was created Chevalier of the Legion of Honour, and promoted "Officier" in 1865 and "Commandeur" in 1880. As "Inspecteur-Général des Monuments Historiques" he continued to give active and energetic service almost up to the last moment of his life.

MR. GEORGE RICHMOND, R.A.—The death has just taken place of Mr. George Richmond, R.A., who was in his 87th year. Himself the son of an artist, he was also the father of an eminent artist, Mr. W. B. Richmond, R.A. He studied at the Royal Academy when fifteen years old, and for a time was influenced by the work of William Blake, but after a long stay in Venice, Rome, and Florence, he turned his attention to portraits in chalk and oil. The monument of Bishop Blomfield, which stands in St. Paul's Cathedral, was done by him. He was appointed a member of the Council of the Government Schools of Design in 1847, and nine years later Mr. Richmond was chosen to be a Royal Commissioner for selecting the site of the National Gallery. From Oxford he received the honorary degree of D.C.L. in 1867, and six years ago Cambridge University conferred the LL.D. on him. After being a Royal Academician for several years he was placed on the retired list, so that his death will not cause a vacancy in that body.—*Daily Chronicle.*

MR. W. A. LEE.—On the 21st inst. the remains of Mr. William A. Lee, a well-known granite mason of Clifton-street, Exeter, were interred. The deceased had been many years a member of the staff of Messrs. Harry Hems & Sons, but had a long illness and had been unable to do any work since the early part of last year.

MR. GEORGE HACKFORD.—We have to announce the death of Mr. George Hackford, F.S.I., of 6, Queen Anne's Gate, S.W., which occurred on the 25th inst. at Wandsworth, in the 71st year of his age. Mr. Hackford was born at Boston, in Lincolnshire, and, early in life, entered the office of Messrs. Kirk & Parry, contractors, of Sleaford, and ultimately became their travelling manager. For the last thirty-five years, Mr. Hackford, at Queen Anne's Gate, acquired a large practice as a quantity surveyor, very largely in connection with the Great Western and other railway companies. One of the departments of his business, in which Mr. Hackford's loss will be most deeply regretted, is the duty of arbitrator, which he so frequently undertook, in all questions relating to contracting disputes.

GENERAL BUILDING NEWS.

SCHOOL, TONBRIDGE, KENT.—The formal opening of the new Judd Commercial School at Tonbridge took place on the 21st inst. The buildings are situate in Brook-street-lane, and will afford accommodation for 200 boys. The principal hall measures 76 ft. by 33 ft., the height from floor to ceiling being about 35 ft. There are six class rooms, a chemical laboratory, a technical shop, a dining hall, &c. A residence for the head master adjoins, and outside there is a covered playground, &c. The total cost of the school has been about 10,000*l.* The architect is Mr. W. Campbell Jones. Architect to the Skinner's Company, and the contractors, Messrs. Turner, Limited, of Watford.

TOWN HALL AND TECHNICAL INSTITUTE, LEYTON.—The Duke and Duchess of York visited Leyton, Essex, on the 18th inst., for the purpose of opening the new Town Hall and Technical Institute. The frontage to the High-road is 110 ft., and the side facing Adelaide-road extends over 200 ft. The principal entrance to the Town Hall is in the High-road, and to the Technical Institute in the Adelaide-road. There is also a second entrance to the hall in Adelaide-road. Red brick and Portland stone have been employed in the work, and the edifice is in the English Renaissance style. The Technical Institute has a projecting porch, carved by Mr. W. Baird, and a panel representing "Engineering," executed by Mr. Woodington. The whole of the buildings will be illuminated with the electric light. The basement entrance is in Adelaide-road. Here there are store-rooms, a range of offices, and a heating chamber and coal cellar. A corridor leads to a large kitchen. A double lift ascends to the members' room on the ground floor, and also to the second floor. In the basement of the Technical Institute there is a series of class-rooms 40 ft. by 25 ft.; a plumbing shop, a wood-work shop, a metal-workers' shop, and a range of lavatories. On the ground floor are the offices of the Surveyor. Here there is a fireproof room for plans and documents. Adjoining are the Sanitary Inspectors' rooms, and the offices of the Medical Officer of Health, while on the opposite side of the corridor are offices for other officials. A waiting-room faces the entrance in Adelaide-road. The School Board office is immediately on the south side of the entrance-hall, and beyond this is the general office, the inquiry and bookkeepers' office, and the private room of the Clerk of the Council. A large committee-room, with anteroom and waiting-room, is also provided. The hall-keeper is accommodated with a small office directly opposite the entrance from the High-road. The Technical Institute is connected with the Town Hall buildings on each floor by corridors. On the ground floor is a large committee-room, with a clerks' office attached, a public waiting-room, and two class-rooms. At the end of the corridor a lift is constructed for the purpose of sending models and material to the floor above; and on the other side of the corridor are four class-rooms with raised platforms. The Town Hall is on the first floor, and is 78 ft. by 47 ft., the height being 30 ft. to the flat of the ceiling. The floor is of polished oak. Adjoining the chamber are ladies' and gentlemen's cloak-rooms, the members' room, and the Chairman's room. The art class-room, in the Technical Institute, is 98 ft. 6 in. by 25 ft., and is divided into three sections. The north light is obtained by top lights. Close by is the cookery class-room, with scullery adjoining; a chemical laboratory, and a class-room. The entrance-hall and corridors throughout the buildings are laid with mosaic from designs by the architect. On each floor there are lavatories and fire hydrants. The designs were by Mr. John Johnson, of London, and were selected from about thirty submitted in competition. The general contractor is Mr. F. J. Coxhead, of Leytonstone. The constructional iron and steel work was supplied by Mr. A. D. Dawnay, London Bridge; the warming by Messrs. Potter & Sons, Oxford-street, W.; the electric lighting by Messrs. Spagnoletti & Co., under the direction of Professor Robinson; the mosaic floors by Messrs. De Grelle, Floudret & Co., London Wall; the stoves and exterior railing by the Albion Iron Company; the patent glazing by Messrs. Heywood & Co.; the ornamental plastering by Messrs. Tonei & Sons, Penge; and the Portland stone was supplied and worked by Mr. Barnes. The red bricks were from the Eltham Brick Company, Kent, who executed some of the ornamental panels from the architect's design, the other ornamental bricks being supplied by Mr. J. Brown, Chelmsford. Mr. J. Bint has acted as clerk of the works.

HOSPITAL FOR CONSUMPTION, NEWCASTLE, COUNTY WICKLOW.—On the 19th inst. the Marchioness of Zetland opened the new National Hospital for Comsumption, which has been erected at Newcastle, County Wicklow. The buildings have been carried out from the designs of Sir Thomas Deane & Son, the contractors being Messrs. Collen Brothers, of Dublin and Portadown. The hospital at present consists of three blocks of buildings, but the structure has been so planned as to allow of extensions being made on either side. In the central block are situated all the administrative offices, and in the side wings are placed the patients' bedrooms. The building is constructed of rubble masonry, cemented and rough cast. The windows, doors, and quoins are trimmed with red brick, and the roofs covered with red tiles.

OFFICES FOR THE JEWISH BOARD OF GUARDIANS, BISHOPSGATE.—New offices for the Jewish Board of Guardians, in Widegate-street, Bishopsgate-street, which have just been opened, consist of a block of buildings four stories in height. The front is of red brick, relieved with stone and red concrete strings. The building is of fireproof construction throughout. The building has been erected by Messrs. E. Lawrance & Sons, from designs supplied by the Hon. Architects of the Board, Messrs. Davis & Emanuel. There are three entrances, the main one in the centre of the building, and one at the extremity of each wing. Entering the building by means of the principal door, on the right hand are found the clerks' offices, waiting-rooms, and the secretary's room. On the left hand, communicating with one of the side doors, are the committee-rooms and the waiting-rooms of the relief department. On the first floor are situated several committee-rooms and a board-room. On the second floor there is a large double room, which will be used as a girls' work-room. On this floor there are also a dining-room for the girls and a small room for the use of the superintendent. Above this, on the top floor, are the adult sewing-class room and the various rooms set apart for the clothing department and the caretaker's apartments. The second and third floors are approached by a staircase leading from the right-hand side door. The basement contains the industrial department, including a master's room, clerks' office and waiting-rooms, and also the loan department. The building is lighted throughout with the electric light, the fittings being supplied by Messrs. D. Hulett & Co. of High Holborn.

CATHOLIC CHURCH, GLASGOW.—On the 17th inst. the memorial stone of the new Church of St. Patrick, Glasgow, was laid by the Archbishop of Glasgow. The church is being built on a site at the corner of North- and William-streets, at some distance from the old church and schools, and will consist of a chancel, side chapels, nave, aisles, and baptistry. The sanctuary will be connected by a cloister to the presbytery which is being built at the east end of the block. The nave is divided into seven bays, each bay being pierced by two-light windows with traceried heads. The clear-story will be supported by arches springing from granite columns, each arch having a span of 27 ft. 6 in. Each bay of the clearstory has a five-light traceried window. In the main chapel is a seven-light window 32 ft. in height, with traceried head, and below this window are the two main entrances approached by steps from North-street, the William-street entrance being also approached by steps. The chancel is divided from the nave by the chancel arch, terminated in a five-sided apse, and has a two-light window with traceried head in each bay. There is also an arch between the chancel and each side chapel, which are divided from the nave by an arch on either side. A rose-window lights each chapel. Internally the church is 134 ft. long, 60 ft. wide, and the nave has a width of 30 ft. The width is 73 ft. The church when completed will accommodate 1,000 persons. Locharbriggs stone will be used in the erection of the building, lined internally with brick. The architect is Mr. Pugin, of Westminster. The contractors for the building are Messrs. Devlin & Sons; for carpentry, Messrs. Allan & Baxter; slaters, A. & J. Mailer; plumbers, Fyfe & Allan; plasterers, J. & J. M'Kenzie; painters, M'Culloch & Co. The whole cost of church and presbytery, including the cost of the site, will amount to 20,000*l.*

SCHOOLS, RUGELEY, STAFFORDSHIRE.—New Sunday schools in connexion with the Heron Court Congregational Church have just been opened at Rugeley. The new school adjoins the chapel. Its cost is over 1,000*l.* The architect is Mr. W. Gamble, of Burton-on-Trent, and the builders Messrs. T. Lowe & Sons.

WREXHAM CHURCH.—According to a daily paper the tower of Wrexham Church is in danger. The structure is now being surveyed preparatory to a report being made as to its condition.

MEMORIAL HALL, MONTROSE.—An addition to the Memorial Hall, Montrose, adjoining the Congregational Church, has just been completed and opened. Mr. J. Sim, of Montrose, was the architect. The contractors for the different departments of the work were—Mason, Mr. A. Brown; joiners, Messrs. Fettes & Stephen; plumber, Mr. J. Warden; plasterer, Mr. Bowman; painter, Mr. J. Middleton; slaters, Messrs. Keillor & Sons—all of Montrose.

CHAPEL EXTENSION IN ANGLESEY.—The works in connexion with the chapel to be erected at Llangefini as a memorial to John Elias, Calvinistic Methodist preacher, were commenced on the 23rd inst. The approximate cost is 4,000*l.* The architects are Messrs. O. M. Morris & Son, Portmadoc, and the contract has been let to Mr. R. J. Williams, builder, Bangor.

SUNDAY SCHOOL, WALKER, NORTHUMBERLAND.—The foundation stone of a parochial hall and Sunday schools in connexion with Christ Church, Walker, was recently laid. The building is being constructed by Mr. T. Watson, Walker, to the designs of Messrs. Hicks & Charlewood, architects, Newcastle, of brick, with stone facings. The dimensions of the building are 90 ft. by 36 ft., and it will contain a schoolroom 70 ft. by 34 ft., two class-rooms and the usual offices, the seating accommodation provided being for 450 people.

SAVINGS BANK, GATESHEAD.—A new Savings Bank is being erected at Gateshead, at the corner of West-street and Bensham-road. The plans provide for a banking room 37 ft. by 26 ft., with strong-room and conveniences on the ground floor, and a Board room and caretaker's room above. The building is designed in the Renaissance style, with polished granite base. Kenton stone will be used up to the first-floor level, relieved with red Dumfries stone, the upper portion being in red brick with stone dressings, and the corner being completed by a dome. The tender of Messrs. Haswell & Waugh, of Gateshead, has been accepted. Mr. G. B. Burnett is clerk of the works, and the architect is Mr. Stephen Piper, Newcastle.

MUNICIPAL BUILDINGS, PERTH.—The Municipal Buildings of Perth, which were partially destroyed by fire in January last year, are now almost completely restored, and the Commissioners' Hall was used for the first time on the 16th inst. The portion of the building chiefly affected by the fire was the Council Chamber and the Police Court, which were completely gutted; but the basement floor, consisting of the Chamberlain's and Registrars' Offices and the Police Office was so much damaged by water as to be rendered unfit for occupation. The work has been carried out by Mr. Heiton, City Architect, upon plans in every

respect, so far as structural arrangements are concerned, the same as those furnished by the late Mr. Andrew Heiton, the original architect for the building. Externally therefore, the building is the same as it was previous to the fire. Internally a few minor changes have been made in the arrangements of the Council Chamber. The walls have been rendered in some measure fire-proof by a sheeting of iron between the lath and plaster; while the communication with the Court-room is cut off by fire-proof iron doors. The bench occupied by the Lord Provost and magistrates has been considerably lowered. The stained-glass windows have been replaced according to the original design, and the walls and ceiling have been decorated in colours and gold, in pretty much the same style as at first. In the Burgh Court no change has been introduced, but the interior arrangement of the police office has been rendered more convenient for the transaction of business. Previous to the fire the Police Commissioners had obtained the range of buildings lately occupied by Messrs. Dickson & Turnbull and other tenants, at a cost of about 2,000*l.*, and this building has been transformed into a suite of offices from plans prepared by the Burgh Surveyor, Mr. M'Killop. The upper floor is used for dwelling rooms. The second floor is mainly occupied by the Burgh Surveyor, consisting of a public office occupying the whole front of the building. There are also a private office for the Surveyor, store-rooms for plans, and a room for the bandmaster. The basement floor is occupied partly by the offices of the gas treasurer—public office, treasurer's room, and clerks' room. The remaining portion of this floor is occupied by the Fire Brigade Department. The cost of the restoration of the old portion of the municipal buildings has been about 3,000*l.*, and of the alterations on the building acquired for other offices about 1,000*l.*

FOUNDERS' CHAPEL: LANCING COLLEGE.—At a cost of 438*l.* the mortuary chapel in the crypt at Lancing College has just been furnished, and on the 25th instant was dedicated with a commemoration service. The chapel is now enclosed with a parclose, and a gate and grille of iron-work by Messrs. Singer; the floor is paved with black and white marble, and the footpace with a tesselated pavement in coloured marbles; the altar is a mensa of red Numidian, supported on columns of Italian marble, and backed by a retable of alabaster, in the face of which are sculptured a seated figure of our Lord, with three saints on either hand, representing in all the patrons of the schools in immediate connexion with Lancing College. The marble and carved work has been executed by Messrs. Farmer & Brindley, and, with the other structural work, has been superintended by Mr. Ingelow. Two windows have been executed by Mr. Clayton; the one to the east contains a figure of the rising Saviour, the other, on the south, a figure of the founder, kneeling to offer up the Lancing Chapel, which his guardian angel comes down to receive.

SANITARY AND ENGINEERING NEWS.

SEWAGE DISPOSAL AT TODMORDEN.—Mr. Rienzi Walton, C.E., Local Government Board Inspector, attended on the 19th inst. at the Town Hall, Todmorden, to receive evidence in regard to an application by the Urban Council to borrow 40,000*l.* for sewerage and sewage disposal. Mr. Dan Sutcliffe (clerk) stated on behalf of the Council that the population of the district, according to last census, was 24,725, of which it was calculated that about 20,000 came within the drainage area. At the last inquiry it was proposed to borrow 44,070*l.*; but, in consequence of certain suggestions offered by the inspector, the plans had been amended, the size of the sewers reduced to keep out the surface water, and the storm water taken out, with the result that there was an alteration of the original estimate to 39,861*l.* The sewage would be treated by the International system.—Evidence was given by Mr. Shaw, the Surveyor; Dr. Thorp, the medical officer; and Mr. A. Crossley, chairman of the Sewerage Committee; and there was no opposition.

LANCASTER WATER SCHEME.—On the 20th inst. a Local Government Board inquiry was held at the Town Hall, Lancaster, before Col. A. G. Durnford, R.E., with reference to the application of the Town Council for sanction to borrow 65,000*l.* for works of water supply. The Town Clerk said the Inspector was aware a provisional order had been sanctioned by Parliament authorising the construction of a reservoir at Blea Tarn. For the purchase of the necessary land and the works Parliament had fixed the borrowing powers at 65,000*l.* Mr. J. Cook, Borough Surveyor and water engineer, produced the plans for the scheme. The Inspector raised the question of Thirlmere, and evidence was accordingly given in respect to that source of supply. Mr. Streachan, engineer, pointed out that authorities that took their water from Thirlmere would have to bear the burden of Manchester's great expense in looking to the future. Apart from a great engineering obstacle, the Thirlmere scheme would mean 12,000*l.* for pipes, also the construction of a storage reservoir, and then they would not have sufficient pressure to get over Langthwaite Hill. It was unreasonable to suppose they would go to the expense of making a supply obtainable from Thirlmere, and pay 9d. per 1,000 gallons for it, when they could supply their own water to adjacent townships at a profit of 6d. per 1,000 gallons.

SEWAGE AND OTHER WORKS, RHYL.—On the 21st inst., at Rhyl, a Local Government Board inquiry was held as to the application by the Urban District Council for the following loans:—3,000*l.* for additional sewerage works, 9,800*l.* for improving waterworks, 625*l.* for purposes of the isolation hospital, 550*l.* for new town's yard, and 2,700*l.* for promenade extension. The Council was represented by its permanent officials and by Mr. Baldwin Latham, engineer of the sewerage works, and Mr. F. Stow, water engineer. Mr. Rowlands, Town Clerk, explained, in respect to the sewerage loan, that it was wanted to complete the grand scheme of drainage for Rhyl by the reconstruction of old sewers chiefly in back streets, so that every part of the town would have properly ventilated, self-cleansing gradient sewers laid on concrete foundations. There was no opposition to the proposal. The inquiry was adjourned until the 31st inst.

RAILWAY EXTENSIONS IN DERBYSHIRE.—Several important railway extensions are, says the *Daily News*, in progress in Derbyshire. The first is a line from Buxton to Ashbourne, through the Peak of Derbyshire, constructed by the London and North-Western Railway Company, and later on it is proposed by the same company to extend this line across country to their new section at Marston-on-Dove, and thence on to Burton-on-Trent, and forward on to their main line at Lichfield and Nuneaton. The second extension is the East to West Coast Railway, which runs through what is known as the Derbyshire "Royal" Coalfields, viz., the principal coalfields in the northern part of Derbyshire, around Chesterfield and the neighbourhood. The Great Eastern Railway Company, who are the principal proprietors of this line, will, in the course of a few weeks' time, have access to the Derbyshire coalfields. The Great Eastern Company will run viâ Lincoln with its mineral traffic. Keen competition is sure to result, as the Derbyshire coalfields in this neighbourhood will be served by no less than four competing railway companies, viz., the Midland, Great Northern, Manchester, Sheffield, and Lincolnshire, and the Great Eastern Railway Company. Another Derbyshire railway extension sanctioned by a large and influential town's meeting of merchants and others, just held at Matlock, is that the London and North-Western Railway Company should run from their new Staffordshire system across country to Wirksworth, thence through Bonsall, Matlock Bath, Matlock Bridge, Tansley, to the Erewash Valley coalfields, thence forward to Mansfield, tapping on its way large colliery districts on the borders of Nottinghamshire. At the present time the immense coal traffic in this neighbourhood is principally dealt with by the Midland Railway Company. The proposed light railway from Derby to Ashbourne and the Peak district has been temporarily abandoned until the promoters saw what the Legislature intended doing in regard to light railways.

FOREIGN.

FRANCE.—The Académie des Beaux Arts has just elected Mr. Herkomer as *associé étranger* in place of the late Lord Leighton.——A committee has just been formed to erect a monument to Madame Carvalho, the celebrated singer, who died not long ago. The execution of the monument has been entrusted to M. Antonin Mercié, who has already finished the model.——A magnificent bust of Alexandre Dumas, by Carpeaux, has just been placed in the grand staircase of the Théâtre Français.——M. Gérôme has been elected President of the Jury of Painting for the Champs Elysées Salon. The admission of works sent by architects to this salon will be from the 2nd to the 5th April. The vote for the Jury of Architecture will be on April 8.——M. Gion, the architect, has been asked to consider a project for restoring the church of St. Eustache, within the limits of 600,000 fr.——M. Berlier, engineer, has just finished the syphon (the length of which is 238 mètres) under the Seine, by the side of the Pont de la Concorde. It is intended to unite the sewers on the left bank with those at Asnières on the right bank.——M. Sauffroy, architect, who is directing the 8th section of architecture of the Ville de Paris, in place of the late M. Aldrophe, has been commissioned to execute a design for a funeral monument to be called "de Souvenir," which is to be placed in the Batignolles Cemetery.——A statue of Perronet, the architect, by M. Gaudez, is to be erected at Neuilly; the pedestal is designed by M. Guiard, architect.——The Government proposes to carry out a complete and final re-arrangement of the Grande Salle des Etats at the Louvre, in order to facilitate the enlargements which have long been demanded by the Louvre authorities.——The Municipal Council of Paris has just approved of the programme of the competition for the building of the two palaces in the Champs Elysées, which are to replace the Palais de l'Industrie and the Pavillon de la Ville de Paris.——A Municipal Theatre and a Post Office are shortly to be built at Tulle (Corrèze).——The Government intends to put in hand some important hydraulic operations, to convey the water of the Moselle (which now supplies one of the arms of the Canal de l'Est) to Gosse near Epinal. The expense of this work is estimated at 1,500,000 francs.——A railway is to be formed between the towns of Orange, in Vaucluse, and Buis, by the Paris, Lyon, and Méditerranée Company.——The *Union Syndicate des Architects Français* have just instituted three competitions for the year 1896. The first, for architects, is for the construction and design of modern buildings, under the title of *Groupe Urbain*; it includes buildings required in modern life, such as post-offices, omnibus offices, cab-ranks, &c. The second competition, for pupils of architects, is for shelters for cyclists, and coach-houses for bicycles. The third competition is for artists who are working with architects, and is for a coloured window suitable for a public building.

MADE LAND SINKING IN SAN FRANCISCO.—Trouble is being had in San Francisco, Cal., with the sinking of a portion of the city near the bay shore. The locality affected, originally a morass crossed by a range of low sand hills, was filled in and graded about ten years ago, the filling having been made on a foundation of ooze. Buildings have been usually erected on piling driven 60 ft. to 70 ft., but not to solid bottom. The whole mass appears to be slowly settling at rates varying from ½ in. to 3 in. or 4 in. a year where the foundations are poorest. Much trouble is had in consequence in maintaining sewer grades, the levels having to be brought forward continually from solid ground.—*Engineering Record.*

SANITARY PLUMBING IN CALCUTTA.—We have already noticed that among the many works to be undertaken in Bengal during the ensuing official year, hospital requirements and sanitary measures in connexion with gaols and public buildings will figure prominently; and we noted that this is a commendable feature in the large programme to be carried out. But we might now add that the efficacy of all sanitary items depends more directly and apparently than any other class of work upon the quality of the materials and workmanship, and any attempt to stint or strive for cheapness can have but one result—failure and disappointment with, perhaps, worse things in their train.—*Indian Engineering.*

BUILDING LIMITATION IN BOSTON.—The movement in Boston to restrict the height of buildings on narrow streets has found expression in the presentation of a petition, numerously signed, to the Commitee on Metropolitan Affairs of the General Court requesting the establishment of high-building limits in that city. The terms favoured in the petition are: That outside of the business district and within the residential districts of the city of Boston no building shall exceed 80 ft. in height, and if the width of the street is less than 40 ft. no building thereon shall exceed a height greater than twice the width of the street. A joint committee, composed of representatives of the Real Estate Exchange, the Master Builders' Association, the Boston Society of Architects, and the Associated Board of Trade, is now considering the revision of the building laws of Boston.—*Engineering Record.*

MISCELLANEOUS.

GOOD FRIDAY WEEK.—Next week we go to press a day earlier than usual. All communications for the Editor must reach him by *first post on Wednesday* morning, except lists of tenders, which will be received up to 10 a.m. of the same day.

ARCHITECTS' BENEVOLENT SOCIETY.—We are glad to hear that the appeal recently addressed by the President of the Architects' Benevolent Society, Mr. Penrose, to the architectural profession of the United Kingdom, directing attention to the good work done by the Society and the urgency for more liberal support from architects at large than has hitherto been accorded to it, has met with a liberal response; although it may be hoped that the effect of Mr. Penrose's forcible letter is not yet exhausted, and that further contributions will be received by the Society. Many new annual subscribers have been added to the list of members, and others, already subscribers, have responded to the appeal by increasing their subscriptions. Notwithstanding that it was more particularly Mr. Penrose's desire to increase the amount of annual subscriptions so as to bring the Society more into line with the charitable institutions of other professions, numerous donations have been received, Mr. Arthur Cates having contributed 100*l.*, Mr. G. T. Hine 25*l.*, Mr. J. Macvicar Anderson 10*l.* 10s., Mr. J. Loughborough Pearson, R.A., 10*l.* 10s., Mr. B. Ingelow 5*l.* 5s., Mr. H. C. Boyes 5*l.* 5s., &c.

ELECTRIC LIGHTING IN THE STRAND.—On the 20th inst., at the House of Commons, Sir J. Kitson's Committee on the Electric Lighting Provisional Orders (No. 4) Bill, resumed the consideration of the Strand District Electric Lighting Bill, which had been sent down by the House of Lords' Committee. By the Bill it is proposed to confirm a Provisional Order made by the Board of Trade to the Charing Cross and Strand Electricity Supply Corporation, Limited, in respect of the district of the Strand District Board of Works. The Metropolitan Electric Supply Company, Limited, petitioned against the Bill. Professor Sylvanus

Thompson said there was no difficulty in using the alternating current, as supplied by the Metropolitan Company, for even the largest motors. Mr. Frank Bailey said that all the fair requirements of the Strand district as to electric lighting and power could be supplied by the Metropolitan Company, of which he was chief engineer. Other evidence having been given, the chairman said the decision of the Committee was that the Provisional Order, as amended, would be confirmed.

PLUMBERS AND SANITARY WORK, MANCHESTER. — Mr. William Stansfield, Chief Sanitary Inspector of the Corporation for the Southern Division of Manchester, delivered a lecture recently, in the Association Hall, Peter-street, on the "Past, Present, and Future Sanitary Work in the City." He said that at the present time there was nothing of greater importance to the welfare of the citizens than good sanitary plumbing and drainage. He advised them to let their unseen work be as well done and of as good finish as the work that was visible, because the repute thus gained would be requited in raising the standard of their calling. Hitherto the Corporation had to some extent remained quiescent on the subject of drainage and plumbing work, with the result that at the present moment every workman fixed his own standard of work, which in no few instances was of an indifferent character. He was glad to say that this state of things was now altered, and that the Corporation, acting under the powers granted them by Acts of Parliament, had arranged an exhaustive specification of drainage and sanitary plumbers' work. In future the work and materials used would have to be of the quality thus specified. He trusted that in the near future all sanitary work done in the city would be carried out under the supervision of a clerk of works or inspector, who would have to certify that the work was done satisfactorily before payment was made.

A FUND FOR ARTISTS' ORPHAN CHILDREN.—The Editor and proprietors of the *Art Journal* have resolved to inaugurate a fund, to be called "The Art Journal Fund for Artists' Orphan Children," and invite subscriptions in support of the scheme. It is not desired to make the fund one for undue ostentation, and it is proposed to limit the subscription to one guinea for the ordinary sympathisers with the project; and if any professional artists wish to contribute, their subscriptions—which will be shown in a separate list—are not to exceed half a guinea. It is thought, and probably with reason, that a greater success would be obtained by a limited subscription, which a large number of persons can afford to give, than by appeals for large donations. Subscriptions can be sent to Mr. D. C. Thomson or to Mr. H. D. Virtue, at the *Art Journal* Office, 294, City-road, E.C.

AN IMPOSTER.—A correspondent has written to warn our readers against a person who gave the name of Duer, and stated that he was an architect or architectural draughtsman who had lost his employment with Messrs. Douglas & Fordham, the well-known architects at Chester, in consequence of their having to reduce their staff. He obtained some money from our correspondent, who found however on writing to Messrs. Douglas & Fordham that they knew nothing of him. It is very likely that the same person may try his story on others, though in all probability the name of another firm would be given as the referees.

INSANITARY PROPERTY IN BRADFORD.—At the Bradford Borough Court on the 17th inst., Mr. Chambers, chief Sanitary Inspector of the Bradford Corporation, took proceedings by summons against a number of owners and agents of property upon both sides of Ebenezer-street, Vicar-lane, comprising the whole of the tenements in that locality. Mr. F. Stevens, of the Town Clerk's Department, conducted the proceedings on behalf of the Corporation, which, he said, were being taken under Section 91 of the Public Health Act of 1875. He asked for an order for the abatement of an aggravated nuisance arising on the defendants' property on both sides of Ebenezer-street. Mr. Chambers stated that the principal difficulty was owing to the joint ownership of the property and non-agreement amongst themselves. Dr. Evans, Medical Officer of Health for the borough, said that he had visited the property that morning, and found it in a most filthy condition. The conveniences were in a dilapidated state, there were no doors on the ashpits and no seats on the conveniences, these having been wrenched off and taken away. The yards were used as ashpits and conveniences. Other evidence to the same effect having been given, an order for abatement, with costs, was made against the defendants.

THE LONDON COUNTY COUNCIL'S "MONEY" BILL.—The Council will apply to Parliament this current session for leave to bring in a Bill to define the several amounts which they may expend, as capital, for various purposes during the twelve months beginning on April 1 next, and during the six months following. Amongst the "various purposes" are included:—The acquisition of a site for a Council Chamber and Offices; the purchase of the freehold of Fairseat House, Waterlow Park, Highgate; the widening and reconstruction of Lee, Catford, Isle of Dogs, and Brockley Bridges; the provision of technical schools; stations and sites for verification and stamping of weights and measures (with standards and appliances), and for gas-meter testing operations; electric lighting on Victoria Embankment, Embankment Gardens, and Waterloo and Westminster Bridges; the acquisition of Hackney Marsh; the reconstruction of Highgate Archway; and the improving of spans and headways of railway bridges over or under streets.

WIRE MATS.—Messrs. Dennis & Co. (London) have brought to our notice specimens of the form of wire mats made by Messrs. Felten & Guilleaume, of Carlswerk, under the names of the "Spiralinus" and "Convolvulus" mats, the special characteristic of which is that they are woven of flat wire placed in a vertical position, with the edges uppermost, and woven in such a form that each mesh presents the largest possible amount of flat section in the curve. They thus form a kind of collection of small scrapers, with plenty of space in the interstices for dirt to fall through, and are therefore very effective for their purpose.

GLASGOW BUILDERS AND THE CORPORATION.—At Glasgow Town Council on the 19th inst., a letter was read from the members of the Building Trades Exchange, collectively as representing the building trades, and individually as ratepayers of a considerable portion of the assessable property in the city, expressing apprehension at the extensive scale of the building operations into which the Corporation, as trustees under the City Improvements Acts, had lately been entering. The Exchange were of opinion that the actions of the Corporation in this direction were contrary both to law and equity. Looking at the matter from a legal standpoint, it would hardly be disputed that in erecting tenements of the class and style they were now erecting, containing shops and dwelling-houses, the Corporation were going beyond the scope of the spirit and intention of the City Improvement Acts, and it would be difficult to maintain their legal powers in levying rates on certain citizens for the purpose of enabling them to compete with these citizens in their own branch of industry. The Corporation, in erecting this class of tenements, had advantages that hopelessly handicapped private proprietors. They were able to borrow on the security of the rates at lower interest than private proprietors, and as, in addition, the ground was burdened by no ground rent, the City Architect was able to present to the Corporation proposals for building, apparently showing an excellent return for the ground, and so the building went on apace. The Exchange considered the Trustees had exceeded the power conferred on them. It was impossible to conjecture how far this restless spirit of enterprise might lead them, and the Exchange were of opinion that they at least must take steps to prevent undue encroachment in the branches in which they were interested. Councillor W. F. Anderson moved that the letter lie on the table, and to this the Council agreed.

AN APPEAL FROM CHINA.—We have received the following rather curious communication, typewritten on a piece of rice-paper:—

"Hong-Kong, China,
"February 23.

"DEAR SIR,

"A group of English-speaking readers of your journal here (who see your paper occasionally in the public reading-room of this Emporium Exchange) ask if you could give them an article about the state of the calling represented by your journal in India, as they would like to try their chances there. The more details, the more useful.—Yours truly,

"HONG-KONG EMPORIUM EXCHANGE."

Does this imply a desire on the part of some Chinese architects to try conclusions with the "P. W. D." in India? We are not in a position to give them many details, but if any reader who has had practical experience of architectural work in India has any information to give which will be of use to our Chinese correspondents, we shall be glad to hear from him.

HARDING'S "SIMPLEX" WATER-CISTERN.—This is a small cistern designed for use where there is constant supply, so as to give a small reservoir of water in case of cutting off, without the disadvantages of a large cistern. It is a strong galvanised iron-cylindrical cistern, capable of sustaining the full pressure of the main, with a sloping bottom to render it as far as possible self-cleansing, and an automatic float-valve at the top which seals it when not in use. There is a vent-pipe to this valve with a strainer to exclude impurities. The only pipe passes from the main to the bottom of the cistern. By means of a retaining valve on the pipe below the draw-tap, the cistern can be retained full when the water is shut off, and drawn from by the tap as usual. It seems to be a very useful compromise between the insanitary large cistern and the tap direct from the main without a cistern, which it is sometimes not convenient to depend upon entirely.

NEW ENGRAVINGS.—Messrs. Frost & Reed send us a proof of a fine mezzotint by Mr. Finnie of "Windermere," a mass of foliage with the lake and hills beyond; and another, Miss Piper's large etching of the "Lady Chapel, York Minster," which we have already praised in noticing the exhibition of the Society of Painter Etchers, where an impression of it was hung. It is to our taste a little heavy and overworked for etching, but is a very solid piece of architectural drawing.

APPOINTMENT OF SANITARY INSPECTORS.—The Local Government Board has sanctioned the appointments of Messrs. E. J. Simmons, F. J. Robbins, and H. Johnson as sanitary inspectors in the City of London.

CLOCK AND CHIMES, KENDAL.—A large clock with a carillon attached is to be put in the tower of the Town Hall at Kendal. The carillon will play tunes on ten bells, the heaviest being 36 cwt. Messrs. John Smith & Sons, of Derby, have the work in hand.

FOREIGN-MADE JOINERY.—A meeting of carpenters and joiners was held at the Prince of Wales Inn, Tamworth, on the 21st inst., for the purpose of protesting against the importation into the town of foreign-made joinery by local builders and contractors. A resolution was passed appealing to employers not to use imported doors and window-frames, but to produce such by means of local labour.

ELECTRIC LIGHTING, SUNDERLAND.—At the Town Hall, Sunderland, recently, Mr. F. H. Tullock, M.Inst.C.E., Local Government Board Inspector, held an inquiry in respect to an application by the Town Council to borrow 16,000*l.* for purposes of electric lighting, and minor sums for street improvements, &c. The Town Clerk (Mr. F. M. Bowey) explained that the 16,000*l.* asked for was for the purpose of developing further the electric light within the town. The sum of 25,000*l.* was borrowed in the first instance for establishing the station and laying down certain mains.

ELECTRIC LIGHTING OF GLASGOW.—The Glasgow sub-committee in charge of the electric lighting of the streets met on the 20th inst., when it was agreed to ask the students of the School of Art and the School of Design to send in designs for a wrought-iron bracket for the existing lamps, rendering them suitable for a pendant globe. The committee have agreed to offer a small premium. The deputation appointed by the Corporation to obtain information in regard to the use of the electric light in various towns in England and Scotland have not yet completed their investigations. Among the towns visited were Blackpool, Brighton, and Portsmouth.

CHANCEL SCREEN, WARLEY GARRISON CHURCH, ESSEX.—On the 19th inst. a new chancel screen was dedicated at Warley Garrison Church. The screen has been executed from the designs of Mr. Ingress Bell. The contract for its execution and erection has been carried out by Messrs. Dorey & Sons, of Brentford. The screen is of carved oak, and has five panels.

WINDOW, ST. MARY'S CHURCH, WOLVERHAMPTON.—On the 22nd inst. a new window was unveiled at this church. At the unveiling an address on "Art in Religion" was delivered by Mr. Matthew H. Holding, A.R.I.B.A., who has advised the vicar on the treatment of the subject. The artist is Mr. H. A. Hymers, Chelsea, London.

CAPITAL AND LABOUR.

THE NEWCASTLE BUILDING TRADE.—On the 19th inst., at a meeting of the Newcastle Gateshead, and District Trades Council, reference was made to the dispute in the local building trade by representatives of the trades affected. Councillor Flynn, of Gateshead, the Chairman, said it seemed a pity that such a serious dispute should arise through two trades quarrelling over a question of demarcation of work. Personally, he thought it was a case for arbitration, and he suggested that the bricklayers and plasterers should mutually select an arbitrator, a practical man, that the employers be represented by an arbitrator, that a referee be appointed, and that the parties should abide by their ruling. Mr. Lamb, plasterers' delegate, said he endorsed the Chairman's remarks. The bricklayers claimed a certain class of cement work, and quietly ignored the plasterers, notwithstanding that when the points in dispute were previously submitted to arbitration, the award was given to the plasterers. Since the dispute had been re-opened, the plasterers had tried in vain to obtain a settlement by arbitration, and the upshot of the whole thing was that the masters had given notice for a lock-out to take place, commencing on Monday week. Mr. Southern, another plasterers' delegate, said the bricklayers were opposed to any conciliatory line of policy.

WAGES IN THE BUILDING TRADES AT WREXHAM.—The operative carpenters and joiners of Wrexham have submitted for the consideration of the master builders of that town new rules, which will have the effect of slightly reducing the hours of labour and increasing the wages by one penny per hour. It is proposed that the new rules should come into operation on June 20. The operatives point out that during the last few years the bricklayers, plasterers, and painters have received increases of wages, while the carpenters and joiners have not.

JOINERS' WAGES, ABERDEEN.—The operative joiners of Aberdeen struck on the morning of the 19th inst., but the dispute was settled the same day. The chief concessions are a rise in wages of ½d. per hour, making a standard rate of 8d. for all journeymen employed; 6d. a day extra for "dirty" work (demolishing old buildings, &c.); while the claim for allowance for cases where a long distance has to be walked going to and from work, though within the municipal boundary, will be considered.

LEGAL.

GREEN-STREET IMPROVEMENT:

COMPENSATION UNDER MICHAEL ANGELO TAYLOR'S ACT.

THIS was an inquiry held on the 13th inst. at the Clerkenwell Sessions House, before Mr. Loveland Loveland and a jury summoned under 57 Geo. III., cap. 29 (commonly known as Michael Angelo Taylor's Act) to decide what compensation should be paid by the Vestry of St. Martin-in-the-Fields to the owners of No. 34, Leicester-square, for a portion (about one-fourth) of that house (containing 840 superficial feet) to be acquired by the Vestry for the purpose of their widening scheme. Sir Wm. T. Marriott, Q.C., and Mr. W. Graham (instructed by Mr. Preston, of Chester, and Messrs. Ley, Lake, & Ley) appeared for the owners, and Mr. Cripps, Q.C., and Mr. Lawless (instructed by Messrs. Fladgate & Co.) appeared for the Vestry.

After the jury had made a view of the premises, evidence was given that the house had been let since 1881 until recently at 120*l.* per annum, and that 4 500*l.* had been offered for the premises. Sir J. Whittaker Ellis was examined for the owners in support of a claim of 2,370*l.*, which was further supported by Mr. C. J. Shoppee and Mr. James Green.

Evidence was given on behalf of the Vestry by Mr. Galsworthy that 500*l.* would be the full compensation, and this view was supported by Mr. Robson and Mr. Thurgood, who considered the owners would have an improved frontage to the street and square.

The special provisions of the Act under which the inquiry was held are not very generally known, and it was pointed out that if the £500 only was awarded the owners would practically get nothing, as they would have not only to pay their own costs, but also those of the Vestry, the Act providing that if the owners do not obtain more than the sum offered they shall pay the Vestry costs, and there being no provision for payment of the owner's costs even if they succeed in obtaining more than the sum offered.

The jury awarded the owners £1,400, being £350 above the £1,050 mentioned in the Vestry's sealed offer, which was not disclosed at the inquiry.

MEETINGS.

FRIDAY, MARCH 27.

Institution of Civil Engineers (*Students' Meeting*).—Mr. Julian S. Wise on "Closing a Dock-Entrance for Repairs." 8 p.m.

York Architectural Society.—Mr. G. Benson on "Old York."

SATURDAY, MARCH 28.

London and Provincial Builders' Foremen's Association.—Ordinary Monthly Meeting, Memorial Hall, Farringdon-road, E.C. 7.30 p.m.

Institution of Junior Engineers.—Conversazione at the Westminster Palace Hotel, London. 7.30 p.m.

Incorporated Association of Municipal and County Engineers.—Midland Counties District Meeting, to be held at King's Heath, near Birmingham.

Sanitary Institute (*Lectures for Sanitary Officers*).—Inspection and Demonstration at Friern Barnet Sewage Works. 3 p.m.

Edinburgh Architectural Association. — Visit to (1) Rosyth Castle, (2) Inverkeithing Church and Village.

MONDAY, MARCH 30.

Royal Institute of British Architects.—To read (under the management of the Science Standing Committee) the following papers:—(1) "Brickwork Tests: Report of the First Series of Experiments," by Mr. William C. Street and Mr. Max Clarke. (2) "Notes of the Behaviour, while under Compression, of the First Series of Brickwork Piers," by Mr. Matt. Garbutt. (3) "Report on Tests of Lime and Cement used in the Construction of the Experimental Piers at the West India Docks;" and "Determination of the Loads corresponding to the Gauge Pressures for the Large Hydraulic Press at the West India Docks," by Professor Unwin. (4) "Description of the Hydraulic Testing Machine," by Mr. J. E. Tuit. 8 p.m.

Sanitary Institute (*Lectures for Sanitary Officers*).—Professor T. Roger Smith on "Sanitary Building Construction." 8 p.m.

TUESDAY, MARCH 31.

Institution of Civil Engineers.—Dr. E. L. Corthell on "The Tampico Harbour Works." 8 p.m.

WEDNESDAY, APRIL 1.

British Archæological Association.—Lady Paget on "Some Ancient Stone Fonts in Carnarvonshire." 8 p.m.

Royal Archæological Institute of Great Britain and Ireland.—Mr. W. H St. John Hope, M.A., on "The Monastic Buildings of the Benedictine Abbey of St. Peter at Gloucester." 4 p.m.

Builders' Foremen and Clerks of Works' Institution.—Ordinary meeting of the members. 8 p.m.

Sanitary Institute (*Lectures for Sanitary Officers*).—Inspection at the London County Council Common Lodging-house, Parker-street, Drury-lane. 3 p.m.

Liverpool Engineering Society.—Mr. S. Cowper-Coles on "Electro Zincing." 8 p.m.

Glasgow Architectural Association. — Presidential Address, by Mr. Alex. N. Paterson. 3 p.m.

SATURDAY, APRIL 4.

Sanitary Inspectors' Association.—Mr. A. P. Vaughan on "The Sanitary Aspect of the Factory and Workshop Act." 6 p.m.

RECENT PATENTS:

ABSTRACTS OF SPECIFICATIONS.

7,297.—BRAKE FOR WINDOW-SASHES: *R. Hill.*—To enable windows, and particularly carriage windows, to be held by frictional contact between the sash and frame, brake blocks are provided, and these are moved and controlled by a lever handle. The appliance is so placed in relation to the rod that when the lever is raised or depressed the tappets press against the rod, causing it to temporarily assume a curve which, having the effect of shortening its ends, causes the brake blocks to be drawn together, enabling the sash to move until release of the lift or handle automatically permits the return of the brake blocks to their original position.

7,382.—IMPROVEMENTS IN WATER-CLOSETS: *W. Murchland.*—The mechanical details are devised to improve the construction and combination of parts. The discharge passage from the basin is formed with two trap bends, having between them a confined air space connected to a compartment in the cistern, in which air is compressed by the water filled into the cistern. Pipes, bends, and joints of special construction are incorporated in the specification.

8,999.—STEPPED GRATE: *J. L. Wildapfel.*—This grate is composed of firebars, each consisting of a top or head of fire-resisting material, secured to a lower part of cast iron by a clamping plate, and by feathers or projections on these parts, which take into grooves.

7,243.—CHIMNEY CONSTRUCTION: *W. Buck.*—Instead of straight or verticalflues, bends are used. These are made of non-combustible material, and in such sections as may be convenient for building the chimney. When placed in position, the bends are built around, and the chimney thus formed.

23,981.—COMPOSITION FOR PRESERVING WALLS AND ARTIFICIAL STONES OR BRICKS: *F. Ludewig.*—This is a composition for preventing the formation of moisture, nitre, or acids upon walls, for drying the walls, and for artificial stones or bricks. It is made of a carboniferous powder in combination with a binding agent and water, and is applied like mortar.

NEW APPLICATIONS FOR LETTERS PATENT.

MARCH 9.—5,207, F. Rigby, Domestic Firegrates.—5,210, W. Pitt, Window-sash Fasteners.—5,223, J. Nash, Drying Bricks and Tiles.—5,234, J. Greenwood, Chimney-pots and Ventilating Cowls.—5,257, J. O'Donnell, Syphon Flushing Cisterns.—5,280, W. Jennings, Gulleys.—5,281, W. Jennings, Intercepting Traps.—5,299, J. Reece, Screw-drivers.

MARCH 10.—5,309, J. Briscoe, Joints of Drain and other Pipes.—5,310, J. Hulse, Lavatory and Water-closet Apparatus.—5,312, H. Board, Glazing or Covering of Horticultural Houses or Other Surfaces.—5,335, N. Macphail, Imitation Stained Glass.—5,350, R. Cato, Key-hole Guide.—5,356, H. Kerr, Door Handles.

MARCH 11.—5,442, H. Braddock, Bar for Carrying and Holding Sheets of Glass in Roof Glazing or Skylights.—5,460, A. Morrison and M. Ingram, Lavatory and Bath Overflows.—5,482, G. Power, Bricks.—5,486, The Sandycroft Foundry and Engine Works Company, Limited, and J. Jones, Augers or Boring Tools.—5,509, F. Partridge, Ratchet Screwdriver.—5,515, J. Wood, Sash Fastener.

MARCH 12.—5,536, M. Geneviêre, Combined Girders and Flooring.—5,549, E. Codling, Intercepting Trap for Drains and Sewers.—5,553, J. Jackson, Door Knobs and Method of Fastening same to Doors.—5,559, B. Peaker, Box for Surveyors' Tape Measures.—5,581, A. Richartz, Window Fastener.—5,593, W. Thompson, Water-closet Seats.—5,599, C. Erlwein, Silvering or Coating Mirror Glass.—5,601, J. Schnitzler, Water-closet Fittings.

MARCH 13.—5,701, H. Selk, Windows.—5,706, A. Blackburn, Discharge Apparatus for Cisterns, &c.

MARCH 14.—5,709, W. Johnson, Window Sashes.—5,732, J. Carpenter and J. Pearce, Cisterns and Taps.

PROVISIONAL SPECIFICATIONS ACCEPTED.

23,545, W. Mansfield, Wind-guard and Ventilator.—2,050, T. Evans, Water-waste Preventers.—2,940, W. Hatch and others, Fasteners for Windows, &c.—2,979, W. Reading, Grating for Intercepting Traps.—3,014, W. Shoosmith, Joints or Unions for Pipes, &c.—3,128, W. Smith, Hinge.—3,237, F. Hodgess, Slop Blocks for Sink-pipes, &c.—3,244, W. Cassels, Lavatories.—3,267, D. Hurst, Water-closets.—3,289, J. Stoddart, Springless Lever Lock.—3,649, J. Tercy, Ventilating Stove-pipes.—3 772, H. Lombard, Door Stop.—3,861, W. Raine and V. Wells, Paint-mixing Machines.—3,993, W. Williams, Artificial Stone for Building Purposes.—4,041, W. Johnson, Window-sashes. — 4,350, M. Norris, Imitation Coloured, Frosted, or Embossed Ornamental Glass.

COMPLETE SPECIFICATIONS ACCEPTED.

Open to opposition for two months.

6,239, R. Hughes and J. Gill, Machinery for Pressing Bricks, Tiles, &c.—7,757, F. Ownsworth, Tying Cavity Walls.—9,252, S. Smith, Window Frames and Sashes.—21,505, H. and F. Stephenson, Water-closet Basins and appliances therefor.—24,116, P. Rolef, Tile.

SOME RECENT SALES OF PROPERTY:

ESTATE EXCHANGE REPORT.

March 4.—By EDDISON, TAYLOR, & BOOTH (at Batley).

Batley, Yorks. — Commercial-st., "West End Hotel" and shop adjoining, f. £3,150

March 7.—By BRUTON, KNOWLES, & PRIDAY (at Gloucester).

Westbury-on-Severn, Glos.—"Rodley Marsh," 6 a. 2 r. 11 p., f. 255

March 10.—By EDDISON, TAYLOR, & BOOTH (at Huddersfield).

Almondbury, Yorks.—Milnsbridge, "Warren House Inn," plot of land, and two shops and houses adjoining, f. 3,700

March 11.—By J. H. FIELD (at Tideswell).

Tideswell, Derby.—Enclosures of land and cottages, 95 a. 3 r. 39 p., f. 2,750

"The George Hotel," f. 2,500

Great Hucklow, &c., enclosures of land, 83 a. 3r. 1 p., f. 1,581

By W. ASHMOLE (at Southall).

Southall, Middlesex.—1 and 2, Western-rd., f., r. 51*l.* 290

By GRAHAM, HITCHCOX, & Co. (at Newport).

Newport, Mon.—56, High-st., f., r. 200*l.* £5,500

Ebbw Vale, Mon.—"The County Hotel," u.t. 86 yrs., g.r. 15*l.*, r. 300*l.* 7,700

"The Bridgend Inn," u.t. 22½ yrs., g.r. 14*l.* 9s. 4d., r. 170*l.* 2,850

By CUMBERLAND & SON (at Holbrook).

Bargate, Derby.—Freehold house and cottage and 10 a. 3 r. 14 p. 830

By J. T. WHITEHORN (at Nottingham).

Nottingham.—Wheeler-gate, "St. Peter's Hotel," f., subject to yearly charge of 4*l.* 19,800

Radford, Notts.—"The Old Farm House Inn" and five cottages, f. 4,070

Bingham, Notts.—A freehold cottage and 0 a. 1 r. 31 p. 200

By WYATT & SON (at Chichester).

Chichester, Sussex.—8, St. John-st., f. 850

1, South Pallant, f. 100

Rumboldswyke, Sussex.—A freehold enclosure, 2 a. 2 r. 12 p. 175

By DOUGLAS YOUNG.

Camberwell.—42, Valmer-rd., u.t. 83½ yrs., g.r. 7*l.* 5s., r. 42*l.* 390

Dulwich.—24, Carson-road, u.t. 83½ yrs., g.r. 7*l.*, r. 42*l.* 10s. 440

By T. B. WESTACOTT.

Camden Town.—127 and 129, Camden-rd., u.t. 41½ yrs., g.r. 12*l.*, r. 107*l.* 1,020

By BOYTON & PEGRAM (at Walham Green).

Fulham.—77 to 59 odd, Aintree-st., u.t. 96 yrs., g.r. 56*l.* 2s. 1,752

By H. SHARP & SON (at Boston).

Kirton Holme, Lincs.—F. messuage and enclosures of land, 44 a. 0 r. 4 p. 1,630

By ALFRED RICHARDS.

Finsbury.—Worship-st., f.g.r. 300*l.*, reversion in 78 yrs. 8,000

Smithfield.—Long-lane, f.g.r. 50*l.*, reversion in 48 yrs. 1,635

Tottenham.—Landsdowne-rd., f.g.r. 12*l.*, reversion in 80 yrs. 315

Ponders End.—Garfield-rd., f.g.r., 27*l.*, reversion in 93 yrs. 625

Tottenham.—Tynemouth rd., f.g.r. 11*l.*, reversion in 74 yrs. 300

Finsbury.—24, Sun-st., f., r. 50*l.* 845

15, Holywell-row, f., r. 45*l.* 910

Leyton.—Knott's Green, "The White House" & factory adjoining, f., r. 55*l.* 840

Finsbury.—48 and 50, Clifton-st., u.t. 10½ yrs., g.r. 14*l.* 8s., r. 97*l.* 525

Kingsland.—11 and 13, Downham-rd., u.t. 23½ yrs., g.r. 16*l.* 10s., r. 63*l.* 365

By H. TUFNELL.

Greenwich.—4, 6, 24, to 36 even; 25 to 31 odd; 58 to 70 even, Glenister-rd., u.t. 63 yrs., g.r. 78*l.* 6s. 2,015

25 to 33, Selcroft-rd., u.t. 62½ yrs., g.r. 20*l.* 540

Blackheath, 1, Rose Bank, u.t. 66 yrs., g.r. 7*l.*, r. 38*l.* 400

Holloway.—Anson-rd., "The Chaloners," u.t. 86 yrs., g.r. 12*l.*, r. 70*l.* 750

Kingston-on-Thames.—113 and 115, Elm-rd., f. 225

1 to 6, Gower-ter., f. 665

Surbiton.—Worthington-rd., "Kent Villa," f. 220

Erith, Kent.—7, Lesney Park-rd., f., r. 65*l.* 750

March 12.—By C. C. & T. MOORE.

Finchley.—Ballard's-lane, "Teignmouth House," f., r. 26*l.* 460

Hutton-grove, f.g.r. 14*l.*, reversion in 66 yrs. 410

Bow.—125 and 127, Malmesbury-rd., u.t. 51 yrs., g.r. 8*l.*, r. 56*l.* 570

Walthamstow.—48, 50, 52, and 54, Albert-road, f., r. 109*l.* 4s. 1,100

Stepney.—James-pl., f., g.r. 25*l.* 10s., reversion in 37 yrs. 500

By F. J. BISLEY & SONS.

Bermondsey, 51, Lynton-rd, u.t. 33¾ yrs., g.r. 4*l.*, r. 40*l.* 325

1 to 4, New-pl., u.t. 38 yrs., g.r. 11*l.* 10s. 475

60 and 62, Tranton-rd., and l.g.r. 10*l.* 10s., u.t. 38 yrs., g.r. 17*l.* 10s. 380

Hickman's Folly, l.g.r. 50*l.*, u.t. 30 yrs., g.r. 40*l.* 355

Rotherhithe.—9, 10, and 11, Hadland-st., f., r. 76*l.* 14s. 850

1, 2, 3, 4, 7, and 8, Neptune-ct., u.t. 98 yrs., g.r. 20*l.* 15s. 915

By NEWBON & Co.

King's-cross.—48, King's-cross-rd., f., r. 48*l.* 600

Dalston.—9, St. Philips-rd., u.t. 54 yrs., g.r. 8*l.* 10s. 475

Finsbury Park.—42, Florence-rd., u.t. 82 yrs., g.r. 7*l.*, e.r. 42*l.* 355

Hornsey Rise.—13, Hanley-rd., f., e.r. 38*l.* 540

19 and 21, Hanley-rd., f., r. 84*l.* 1,220

Harlesden.—2, Ranleigh-rd., f., r. 28*l.* 350

By STIMSON & SONS.

Forest-hill.—25, Stanstead-rd., u.t. 80½ yrs., g.r. 6*l.*, r. 30*l.* 300

Plumstead.—12, Edge Hill, f., e.r. 40*l.* 360

Blackfriars.—41½, Blackfriars-rd, u.t. 19½ yrs., g.r. 200*l.*, r. 520*l.* 700

Brixton.—19, Bellefields.rd., u.t. 68½ yrs., g.r. 5*l.*, e.r. 35*l.* 290

By DOBSON & SON (at Bradford).

Bradford, Yorks.—Vicar-lane, "The Friendly Inn" and twelve cottages, f. 4,325

By R. M. BONIWELL & Co. (at Surbiton).

Surbiton.—Ewell-rd., "Glenair," f., e.r. 60*l.* 715

By PYKE, HORNE & POWLESLAND (at Bow).

Bow, Devon.—"The Railway Hotel" and 31 a. 1 r., 28 p., f. 1,520

Fourteen enclosures of land, 46 a. 2 r. 36 p., f. 3,471

"Bow Mills," and 0 a. 1 r. 4 p., u.t. 446 yrs., g.r. nil 200

By BLAKE & DANNATT (at Deptford).

Greenwich.—4 and 6, Old Woolwich-rd., f. 390

New Cross.—7, Kender-ter., u.t. 81 yrs., g.r. nil 230

By A. A. HOLLINGSWORTH (at Enfield).

Enfield Middlesex.—1 to 5, Mira-pl., f., r. 91*l.* 14s. 900

By E. J. GILDERS (at Clacton).

Great Clacton, Essex.—North-rd., two freehold cottages and workshops, r. 19*l.* 325

March 13.—By SLADE & BUTLER.

Chelsea.—40, Westbourne-st., u.t. 25 yrs., g.r. 5*l.*, r. 35*l.* 320

By W. B. HALLETT.

Holloway.—649, Holloway-rd., f., r. 75*l.* 1,625

COMPETITIONS, CONTRACTS, AND PUBLIC APPOINTMENTS.

COMPETITIONS.

Nature of Work.	By whom Advertised.	Premiums.	Designs to be delivered.
*Covered Approach	Southend Corporation	20*l.* 15*l.* and 10*l.*	June 1
*Police Station	Halifax Watch Com...	100*l.* 60*l.* and 40*l.*	June 20
*Infectious Diseases Hospital	Skipton U. & R.D.C...	20*l.* 10*l.* and 5*l.*	July 1

CONTRACTS.

Nature of Work or Materials.	By whom Required.	Forms of Tender, &c. Supplied by	Tenders to be delivered.
Chapel, Pantycrwys, Craigcefnparc, near Swansea	.....	W. Watkin Williams, Arch. 44, Brynawel - terrace, Swansea	Mar. 31
*Sewering, Paving, Metalling, &c.	Southend-on-Sea Corporation	Boro' Surveyor, Clarence-road, Southend	do.
Houses, Ballinlough, Cork	W. J. Heaslip	J. F. M'Mullen, Archt. 30, South Mall, Cork	April 1
Factory Extensions, Bedminster, Bristol	Robinson & Co.	Crisp & Oatley, Archt. 31a, Clare-street, Bristol	do.
Road Works, Leslie-road	Dorking R.D.C.	Surveyor, 18, Wathen-road, Dorking	do.
Residence, Stables, &c. Dowlais, South Wales	David Jones	James & Morgan, Archt. Charles-st.-chamb, Cardiff	April 2
Wall, Enclosing, &c.	South Dublin Union	T. Phelan, Clerk, James-street, Dublin	do.
Elvan Stone (1,000 tons), Penryn, Cornwall	East Kerrier R.D.C.	G. A. Jenkins, Clerk, Penryn	do.
Pair Villas, Alnmouth-road, Alnwick	W. R. Hindmarsh	W. R. Hindmarsh, Jun. Archt. 22, Bondgate-without, Alnwick	do.
Two Houses, Bundoran, Ireland	.....	Wm. Barker, Archt. Londonderry	April 3
Road Works, Lincoln-avenue	Bournemouth Corp.	F. W. Lacy, Boro' Engr.	April 4
Street Works	Crewe Town Council	G. Eaton-Shore, Borough Surveyor	do.
Road Materials, Durham	Brandon & Byshottles U.D.C.	R. Gardner, Surv. Langley Moor, near Durham	do.
Sewerage Works, near Leeds	Rothwell U.D.C.	S. Shaw, C.E. Union-st. Dewsbury	do.
Twenty Houses and Institute, Chesthunt, Herts	.....	Jas. Bunce, Turner's-hill, Cheshunt	do.
Farm Buildings, Parkhead, Drumin, N.B.	.....	Mr. Thomson, Archt. Fife, Keith	April 6
Stone and other Materials	Oxford Corporation	W. H. White, City Engr.	do.
Sewerage Works	Glossop T.C.	Lomax & Lomax, Engrs. Grosvenor - chambers, Deansgate, Manchester	April 7
Library Buildings, Bodmin	J. P. Edwards	S. Treval, Archt. Truro	do.
*Cleansing, Painting, &c.	Bethnal Green Gdns.	G. E. Holman, 169, Bow-road, E.	do.
House, High-street, Burnham, Essex	J. A. Harris	P. M. Beaumont, C.E. Archt. Maldon	do
Two Cottages, High-street, Aberystwyth	T. H. Lewis	D. Michael Evans, Reidol-place, Aberystwyth	do.
*Alterations to Workhouse	West Ham Guardians	F. J. Sturdy, Clerk, Office, Leytonstone	April 8

CONTRACTS—*Continued.*

Nature of Work or Materials.	By whom Required.	Forms of Tender, &c. Supplied by	Tenders to be delivered.
Tarpaving, Market, St. Peter's-street	Norwich Corporation	A. E. Collins, C.E. Guildhall, Norwich	April 8
Granite Setts	Keighley Corporation	H. H. Hopkinson, Boro' Engineer	do.
Public Baths, Hop Pole Paddock	Chester Corporation	H. Burgess, Archt. 34, Gt. James-street, W.C.	do.
Electricity Station, Valley-road	Bradford Corporation	T. Barker, Archt. 5, Bond-street, Bradford	do.
Enlargement of Petty Sessional Court, Bournemouth	.....	Jas. Robinson, County Surv. The Castle, Winchester	do.
Residence, Builth Wells	.....	C. W. Woosnam, Cefnllysgwyne, Builth	do.
*New Infirmary Wards	Braintree Union	F. Whitmore, 17, Duke-street, Chelmsford	April 9
Road Materials	Erpingham (Norfolk) R.D.C.	T. Ling, Clerk, Northrepps, Norwich	April 11
*Erection of Hospital	Epsom, Sutton, Carshalton, & Leatherhead Joint Hospital Board	H. D. S. Wood, 157, Wool Exchange, E.C.	April 13
*Road, &c. Making	Hornsey U.D.C.	E. J. Lovegrove, Council Offices, Highgate, N.	April 17
*Sewers	do.	do.	do.
*Manhole Covers, Gully Gratings, &c.	do.	do.	do.
*Construction of New Museum for Egyptian Antiquities	Egyptian Government	Offices of the "Service Administratif"	April 18
*Additions to Hospital	Metropolitan Asylums Board	A. & C. Harston, 15, Leadenhall-street, E.C.	April 20
*Underground Conveniences	Commrs. of Sewers	The Engineer, Guildhall, E.C.	April 21
*Technical Institute and Library	County Borough of West Ham	Young & Brown, 7, Southampton-street, W.C.	April 27
*Tramp Wards, Offices, &c.	Shifnal Union	J. Farmer Kemberton, Shifnal	May 1
*Construction of Arabic Museum and Khedivial Library, Cairo	Egyptian Government	Offices of the "Service Administratif"	May 2
*Fever Hospital	Metropolitan Asylums Board	A. H. Tiltman, 6, John-street, Bedford-row, W.C.	May 4
*Erection of Wesleyan Church and Class-rooms, &c. Portland	.....	Robt. Curwen, Archt. 168, Palmerston-buildngs, Old Broad-street, E.C.	No date

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Advertised.	Salary.	Applications to be in
*Two General Foremen	Bermondsey Vestry	1*l.* 16s. per week, rising to 2*l.* 2s.	April 1
*Surveyor's Assistant	Shoreditch Vestry	150*l.* rising to 200*l.* per annum	April 2
*General Foreman, also three or four as Assistants	L.C.C. Works Dept. Belvedere-rd. Lambeth	.....	No date

Those marked with an asterisk (*) are advertised in this Number. ***Competitions, p.*** iv. ***Contracts, pp.*** iv., vi., viii., & x. ***Public Appointments, pp.*** xix. & xxi.

By J. HIBBARD & SONS.

Finsbury Park.—12 to 18 (even), Osborne-grove, u.t. 72½ yrs., g.r. 21*l.*, r. 111*l.* £870

By BALL, NORRIS, & HADLEY.

Wandsworth.—28 and 30, Salcott-rd., u.t. 72¾ yrs., g.r. 12*l.*, r. 69*l.* 16s. 520

By JOYCE & HALL.

Westbourne Park.—36, Tavistock-cres., u.t. 60 yrs., g.r. 10*l.* 10s., r. 50*l.* 400

Tottenham.—Markfield-rd., f.g.r. 96*l.* 12s., reversion in 90 yrs. 2,060

By W. H. SHINER (at Weston super-Mare).

Worle, Somerset.—A freehold residence and orchard, 1 a. 0 r. 18 p. 575

Four inclosures of land, 10 a. 0 r. 8 p., f. 1,310

March 14.—By THOMPSON, RIPPON, & CO. (at Okehampton).

Thrushelton, Devon.—Moiety of "Dingwell Farm," 122 a. 3 r. 5 p., f. 745

Three inclosures of land, 14 a. 1 r. 7 p., f. 207

Mar. 16.—By DILLEY & SON (at St. Ives).

Colne, Hunts.—Enclosures of orchard land, &c., 31 a. 0 r. 15 p., f. 2,665

Earith, &c., Hunts.—Enclosures of land, farm buildings, &c., 38 a. 0 r. 6 p., f. 1,090

Sutton, Cambs.—Cottage and land, 31 a. 3 r. 14 p., f. and c. 340

By MAY & ROWDEN.

New Bond-street.—No. 140, a building lease for 64 yrs., let at per annum 660

By NOKES & NOKES.

Clerkenwell.—95, King's Cross-rd., u.t. 62 yrs., g.r. 11*l.*, r. 64*l.* 535

Barnsbury.—11, Hemingford-rd., u.t. 45 yrs., g.r. 19*l.* 19s., r. 60*l.* 335

By OSMOND & BOSTOCK (at Stratford).

Leytorstone.—Granleigh-rd., "Myrtle Villa" and "Holly Villa," f. 490

Forest Gate.—Cecil-rd., 3 plots of building land, f. 152

By E. C. STRETCH (at Fazakerley).

Fazakerley, Lancs.—A freehold farm, area 9 a. 3 r. 11 p. 1,165

Mar. 17.—By W. STEVENS.

De Beauvoir Town.—12, Stanford-rd., u.t. 23¼ yrs., g.r. 1*l.*, r. 30*l.* 210

100, Southgate-rd., u.t. 19¾ yrs., g.r. 4*l.* 10s., r. 38*l.* 200

By DEBENHAM, TEWSON, & CO.

Peckham.—72, 74, 76, and 78, Fenwick-rd., u.t. 77½ yrs., g.r. 41*l.*, r. 182*l.* 1,410

Highbury.—St. Paul's-rd., l.g.r., £12*l.*, u.t. 49 yrs., g.r. nil 320

Kilburn.—17, Kilburn Priory, u.t. 48 yrs., g.r. 2*l.*, and subject to a rent-charge of 7*l.* per annum 505

By C. W. DAVIS.

Holloway.—143 and 145, George's-rd., f., r. 54*l.* 670

Barnsbury.—4, 6, 8, and 10, St. Clement's-st., u.t. 44 yrs., g.r. 12*l.*, r. 89*l.* 500

Stoke Newington.—56 and 58, Wellington-rd., u.t. 15 yrs., g.r. 6*l.*, r. 52*l.* 200

Stepney.—24 and 25, Halley-st., f., r. 44*l.* 4s. 465

By F. JOLLY & CO.

Whitechapel.—185, Whitechapel-rd., f., r. 60*l.* 780

By MATTHEWS & MATTHEWS.

Regent's Park.—34, Longford-st., u.t. 26 yrs., g.r. 4*l.*, r. 42*l.* 10s. £355

37, Longford-st., u.t. 23 yrs., g.r. 6*l.*, r. 50*l.* 340

34, 36, and 37, Munster-sq., and 22 and 24, Little Albany-st., u.t. 26 yrs., g.r. 39*l.* 18s., r. 175*l.* .. 910

16, Frederick Mews, u.t. 26½ yrs., g.r. 3*l.*, r. 30*l.* 200

Chiswick.—71, 73, 75, and 77, Devonshire-rd., u.t. 72 yrs., g.r. 16*l.*, r. 104*l.* 700

By JONES, LANG, & CO.

Brighton.—1 and 2, Richmond-st., f., r. 70*l.* 1,340

2 and 8, Royal-cres., f., r. 270*l.* 3,810

7, Royal-cres., f. 1,970

6, 7, and 8, Royal-cres.-mews, f., r. 61*l.* 910

12 and 25, Lower Rock-gardens, f., r. 135*l.* 2,150

11, Queensbury-mews, f., r. 70*l.* 1,050

Spitalfields.—White's-row, f.g.r. 24*l.*, reversion in 48½ yrs. 900

Elizabeth's-buildings, f.g.r. 10*l.*, reversion in 58½ yrs. 245

Houndsditch.—No. 18, City leasehold, u.t. 55 yrs., g.r. 8*l.* 11s. 1d., fine 59*l.* 17s. 7d. every 14 yrs. 2,160

Northill, Beds.—Enclosures of land, 29 a. 3 r. 4 p., f. 1,500

Hove, Sussex.—14 and 15, Salisbury-rd., f., r. 220*l.* 3,470

By J. C. PLATT (at Hammersmith).

Hammersmith.—1, Raynham-rd., u.t. 72 yrs., g.r. 4*l.* 10s. 210

93, Nasmyth-st., u.t. 74 yrs., g.r. 4*l.* 205

Chiswick.—12, Glebe-st., u.t. 72 yrs., g.r. 3*l.* 10s. .. 165

By T. T. ROBINSON & SON (at Tulse Hill).

Herne Hill.—45, Deronda-rd., u.t. 62 yrs., g.r. 9*l.* 9s., r. 42*l.* 350

By T. NEALE (at Sandiacre).

Sandiacre, Derby.—Freehold land and cottage, 9 a. 2 r. 0 p. 1,135

A plot of building land, f. 105

By T. J. POTTER (at Walthamstow).

Walthamstow.—15, Erskine-rd., u.t. 93 yrs., g.r. 5*l.* 195

By ALEXANDER DANIEL, SELFE & CO. (at Bristol).

Bristol, Somerset.—Cotham Park, "Invergordon" and "Thornhill House," f., r. 122*l.* 10s. 1,705

207, 209, 211, and 213, Newfoundland-rd., u.t. 80½ yrs., g.r. 10*l.* 583

107 and 108, Thomas-st., determinable with a life now aged 85; chief rent, 2*l.*, together with a policy for 300*l.* 305

By G. TINKER & SON (at Huddersfield).

Huddersfield, Yorks.—Victoria-lane, "The Albert Hotel," u.t. 973 yrs., g.r. 12*l.* 17s. 4d. 4,000

March 18.—By PHILIPPS & NORFOLK.

Deptford.—234 and 236, Church-street, f., r. 46*l.* 16s. 550

By G. BRINSLEY.

Highbury.—92 and 94, Riversdale-road, u.t. 74½ yrs., g.r. 11*l.* 6s., r. 71*l.* 520

Herne Hill.—60, Lowden-rd., u.t. 70 yrs., g.r. 5*l.*, r. 26*l.* 250

By FOSTER & CRANFIELD.

Tottenham.—81, 89, 91 and 93, West Green-road, u.t. 80½ yrs., g.r. 36*l.*, r. 141*l.* 1,190

2a, 4a., 6a, 8a, and 15 to 37 odd, Brunswick-rd., u.t. 80½ yrs., g.r. 96*l.* 2,010

10A, Brunswick-rd., f., r. 28*l.* 12s. £280

By WALKER & RUNTZ.

Clapton.—22, 24, 26, and 28, Glenarm-rd., u.t. 60 yrs., g.r. 26*l.*, r. 144*l.* 960

By REYNOLDS & EASON.

Dalston—27, Richmond-rd., u.t. 15 yrs., g.r. 4*l.* 10s., r. 34*l.* 160

By DENNANT & CO.

Deptford.—103, Tanners Hill, u.t. 41 yrs., g.r. 2*l.* 160

St. Nicholas-st., "The Horse Shoe" Mineral Water and Bottling Factory, u.t. 41 yrs., g.r. 6*l.* 11s. 6d., r. 100*l.* 1,250

3 to 7, St. Nicholas-st., u.t. 44 yrs., g.r. 3*l.* 3s. 700

March 19.—By NEWBON & CO.

Marylebone.—10 and 11, Samford-st., u.t. 26 yrs., g.r. 7*l.* 10s. 215

Highbury.—33, Stavordale-rd., u.t. 80 yrs., g.r. 8*l.*, r. 36*l.* 300

Holloway.—57 and 63, Marlborough-rd., f.r. 90*l.* 1,375

Hornsey Rise.—47 and 62, Thorpdale-rd., u.t. 74½ yrs., g.r. 10*l.* 17s. 6d. 445

Old Ford.—291 and 293, Old Ford-rd., u.t. 78 yrs., g.r. 15*l.* 560

By ABERCROMBIE & EDMUNDS.

Brondesbury.—4, 8, 14, 18, and 20, Dyne-road, u.t. 87 yrs., g.r. 37*l.* 10s., r. 331*l.* 2,485

40, Fordwych-rd., u.t. 89½ yrs., g.r. 8*l.*, r. 55*l.* .. 625

Hampstead.—Fortune-green, a plot of building land, 2 r. 21 p., f. 2,075

Willesden.—10, Windsor-ter., u.t. 84½ yrs., g.r. 6*l.*, r. 35*l.* 250

By H. J. BLISS & SONS.

Walthamstow.—Edinburgh-rd., 6 plots of building land, f. 300

Stratford.—3 to 13 (odd), Chandos-rd., u.t. 84 yrs., g.r. 31*l.* 10s. 1,200

Leyton.—1 and 2, Belgrave-ter., f., r. 54*l.* 12s. 480

10 to 15 and 17, Tower-st., f. 1,940

Walworth.—40 and 42, Deacon-st., u.t. 46½ yrs., g.r. 10*l.*, r. 80*l.* 625

By STIMSON & SONS.

Brixton.—29, Holland-rd., u.t. 72 yrs., g.r. 8*l.*, e.r. 45*l.* 450

Southwark.—Tabard-st., &c., f.g.r. 172*l.*, reversion in 38 yrs. 4,575

Long-lane, f.g.r. 110*l.*, reversion in 90 yrs. 3,450

7, Tabard-st., f.r. 35*l.* 660

Brixton.—10 and 12, St. James's-rd., u.t. 23 yrs., f.r. 13*l.*, e.r. 76*l.* 400

Hackney.—17, 19, and 25, Loddiges-rd., u.t. 51½ yrs., g.r. 14*l.* 10s., r. 102*l.* 885

Camberwell.—64 and 66, Grosvenor-ter., u.t. 27 yrs., g.r. 10*l.*, r. 78*l.* 540

New Cross.—2 to 16 (even), 19, 20, 22, and 24, Arklow-rd., u.t. 66 yrs., g.r. 12*l.* 2,680

19 to 29 (odd), Kerry-rd., u.t. 66 yrs., g.r. 27*l.* 1,110

Watford.—78, Sotheron-rd., f., r. 26*l.* 340

[*Contractions used in these Lists.*—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent, r. for rent; f. for freehold; c. for copyhold; l. for leasehold; e.r. for estimated rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; yd. for yard, &c.

PRICES CURRENT OF MATERIALS.

TIMBER.

Greenheart, B.G.	ton	8/0/0 0/0/0
Teak, E.I.	load	12/0/0 13/0/0
Sequoia, U.S. ft. cu		1/10 2/0
Ash, Canada load		3/10/0 4/15/0
Birch, do.		3/5/0 5/0/0
Elm, do.		4/5/0 5/10/0
Fir, Dantsic, &c.		1/15/0 3/5/0
Oak, do.		4/5/0 3 15/0
Canada		6/5/0 7/15/0
Pine, Canada red		0/0/0 0/0/0
Do. Yellow		3/0/0 5/5/0
Lath, Dantsic, fath		4/10/0 5/10/0
St. Petersburg		5/0/0 6/10/0
Wainscot, Riga, &c., log		2/10/0 4/15/0
Odessa, crown		2/10/0 4/15/0
Deals, Finland		
and & 1st std 100		7/10/0 9/0/0
Do. 4th & 3rd		7/10/0 8/10/0
Do. Riga		7/10/0 8/10/0
St. Petersburg, 1st yellow		10/0/0 12/10/0
Do. 2nd yellow		8/0/0 10/0/0
Do. white		8/10/0 10/0/0
Swedish		7/10/0 16/0/0
White Sea		8/0/0 15/0/0
Canada, Pine 1st		23/0/0 23/10/0
Do. do. 2nd		10/0/0 17/0/0
Do. do. 3rd, &c.		8/0/0 10/15/0
Do. Spruce, 1st		9/0/0 10/10/0
Do. do. 3rd and 2nd		7/0/0 8/0/0
New Brunswick		6/10/0 7/10/0
Battens, all kinds		5/0/0 20/0/0
Flooring boards, sq., 1 in. prep. 1st		0/10/0 0/15/0
Do. 2nd		0/6/6 0/12/0
Other qualities		0/5/6 0/7/0
Cedar, Cuba, ft.		1/4 /5
Honduras, &c.		/4 /5
Mahogany, Cuba		/3½ /6
St. Domingo, cargo av.		/4 1/3
Mexican do. do.		/4 /4½
Tobasco do. do.		/5 /7
Honduras do.		/5 /6½
Box, Turkey ton		4/0/0 15/0/0
Rose, Rio		7/0/0 16/0/0
Bahia		6/0/0 15/0/0
Satin St. Domingo		0/2/7 0/2/0

TIMBER *continued*).

Satin, Porto Rico		0/0/7 0/1/6
Walnut, Italian		0/0/3 0/0/7

METALS.

Iron—Pig, in Scotland	ton	2/6/10½ 0/0/0
Bar, Welsh, in London		5/12/6 5/15/0
Do. do. at works in Wales		5/2/6 5/5/0
Do. Staffordshire, in London		6/0/0 6/10/0
COPPER—British cake and ingot		49/5/0 49/10/0
Best selected		50/10/0 51/0/0
Sheets, strong		56/0/0 0/0/0
Chili bars		45/12/6 45/17/6
YELLOW METAL		0/0/4½ 0/0/5
LEAD—Pig, Spanish	ton	11/3/9 11 6/3
English com. brands		11/7,6 11/8/9
Sheet, English, 6 lbs. per sq. ft. and upwards		12/0/0 0/0/0
Pipe		12/10/0 0/0/0
ZINC—English sheet	ton	18/5/0 0/0/0
Vieille Montagne		18/5/0 0/0/0
TIN—Straits		60/2/6 60/12/6
Australian		60/17/6 61/7,6
English Ingots		64/0/0 64/5/0
Banca		61/0/0 61/5/0
Billiton		60/10/0 60/12,6

OILS.

Linseed	ton	18 15/0 19/7,6
Cocoanut, Cochin		26/15/0 0/0/0
Do. Ceylon		0/0/0 0/0/0
Palm, Lagos		21/10/0 0/0/0
Rapeseed, English pale		24/5/0 24/10/0
Do. brown		22/15/0 23/5/0
Cottonseed ref.		16/5/0 16/10/0
Olein		19/10/0 20/15/0
Lubricating U.S.		6/6/0 9/0/0
Do. black		4/9/0 6/6/0
TAR—Stockholm	barrel	1/0/0 0/3/0
Archangel		0/14/6 0/15/0

TENDERS.

[NEXT WEEK communications for insertions under this heading must reach us *not later than* 10 *a.m.* on Wednesday, as, owing to the advent of Good Friday, we go to Press a day earlier than usual.]

BLACKPOOL.—For painting the Blackpool Tower. Messrs. Maxwell & Tuke, architects, Manchester:—

T. F. O'Callaghan	£1,420	R. T. Burnell	£780
A. Bagnall	820	Joseph Ball, Oldham*	750

* Accepted.

BUCKINGHAM.—For the execution of sewerage works for the Corporation. Mr. H. B. Nichols, C.E., Grosvenor Chambers, 59, Corporation-street, Birmingham.

Hill	£8,082	Mackay	£7,112
Bell	8,397	Wood	6,952
Kimberley	8,084	Weldon	6,928
Hipwell	7,581	Ward & Cannon	6,858
Dickson	7,545	Siddons & Freeman, Oundle (accepted)	6,735
Biggs	7,480		
Jenkins & Son	7,200		

BUILTH (Wales).—For the erection of a cottage hospital and convalescent home, for the Trustees. Mr. Telfer Smith, architect, Builth:—

J. M. Jones	£2,108 0 0	T. Jones, Builth*	£1,650 0 0
C. J. Downs	1,897 19 8	A. Meredith, New-bridge-on-Wye†	1,500 0 0
H. Price	1,800 0 0		

* Accepted. † Withdrawn.
[Architect's estimate, £1,658.]

CHEADLE (Staff.).—For the execution of street works, Adderley-green, &c., for the Rural District Council. Mr. F. T. Inskip, Surveyor, Brooke House, Cheadle:—

Streets at Adderley-green only.

H. Moulton	£810 17 9	F. Barke	£576 17 0

The Main only.

F. Barke	£487 5 7	Preston	£495 15 0

HASTINGS.—Accepted for the execution of sewerage works, Halton, for the Corporation. Mr. P. H. Palmer, C.E., Town-hall, Hastings:—
W. Piper, 73, St. Mary's-terrace, Hastings £1,425

HOVE.—Accepted for the extension of sea-wall and esplanade, Hove. Mr. H. H. Scott, Town Surveyor, Hove:—
Messrs. J. Parsons & Sons, Church-road, Hove .... £12,679.

HUDDERSFIELD.—For the extension of store premises, Lockwood, for the Huddersfield Industrial Society, Limited. Mr. J. Berry, architect, 9, Queen-street, Huddersfield:—

Masonry.—Mark Brook, Leeds-road	£793 10 0
Joinery.—Rd. Ledger, East-parade	235 0 0
Plumbing.—Dd. Taylor & Sons, Lockwood	48 18 0
Plastering.—Broadbent Bros., Moldgreen	68 10 0
Painting.—Wood & Atkinson, West-parade	19 19 5
Slating.—Pickles Bros, Fountain-street	84 10 0
Concrete and Stone Macadam Asphalting.—John Cooke, Little Royd	54 1 6

[All of Huddersfield.]

LONDON.—For the erection of a Roman Catholic Chapel, St. Pancras Cemetery, East Finchley, N., for the St. Pancras Vestry. Messrs. Segrave, Browett, & Taylor, architects, 116 and 117, Holborn, E.C.:—

Groome	£1,750	Dove Bros.	£1,535
Yerbury & Sons	1,720	McCormick & Sons	1,475
Hollingsworth	1,706	Tennant & Co.	1,402
Nightingale	1,655	Parmenter	1,435
Star & Co.	1,634	Coulsell Bros., Bethnal Green*	1,393
Little & Lenecal	1,610		

* Accepted.

KINGSWEAR.—For the erection of a villa residence for Mr. Walker. Messrs. Norman G. Bridgman & Walter H. Bridgman, of Torquay and Paignton, architects. Quantities by Mr. Vincent Cattermole Brown, of Paignton:—

Hy. Webber & Sons	£1,069	John Short	£896
Webber & Maunder	1,037	Richard C. Pillar, Dartmouth*	815
E. Westlake	990		
Robert T. Pillar	959		

* Accepted with variations.

LONDON.—For alterations and additions to 7 and 8, The Grove, Highgate, for Mr. J. Burnet Geake. Mr. J. Scott, architect, 27, Brunswick-square, W.C.:—

White	£1,035	Holmes	£999
Dixon	1,025	Densham	928
Southcott	1,012	T. Nicholson*	892
Gregory Bros.	1,004		

* Accepted.

LONDON.—For building villa residence at Whittington-road, Bowes Park, N., for Mr. J. T. Paul. Mr. Joseph G. Needham, architect, 11, Powerscourt-road, Clapton, N.E.

James Pocock	£1,745	W. Wells	£1,250
E. Lancaster	1,335		

[Architect's estimate, £1,130.]

LONDON.—Accepted for work and materials, [St. Giles's District. Mr. G. Wallace, Surveyor to the Board of Works, St. Giles's:—

For Construction of New Sewers, &c., in High Holborn Russell-mews, Keppell-mews North.
C. W. Killingback & Co., Bewlay Cliff Wharf, James-street, Camden Town £1,475

For Laying Wood-paving in High-street and Woburn-square.
Improved Wood Paving Company, Queen Victoria-street, 6s. 3d. per yard superficial.

For Repairing Charing Cross-road with Compressed Asphalte.
Val-de-Travers Asphalte Company at schedule of prices.

For Repairing Woburn-place.
French Asphalte Company at schedule of prices.

For Repairing West-street.
Limmer Asphalte Company at schedule of prices.

For Slopping Dusting, and Watering.
G. Cookson, Tinworth-street, Albert Embankment, for three years ..... Per annum £8,175

Supply of Materials.
Disinfectants.—Adcock, Easton, & Co., Charteris-road, Finsbury Park.
Stone.—W. Griffiths, 283, Kingsland-road.
Gravel and Sand.—Mowlem & Co., Grosvenor Wharf, Millbank.
Steam Roller Hire.—F. & A. Jackson, Stroud Green-road.
Iron Castings.—Messrs. Pontifex & Co., 22, Coleman-street.
Carriage.—J. Walker, Purfleet Wharf, Chalk Farm-road.
[All at schedule of prices.]

LONDON.—For the erection of two shops and houses at High-street, Plumstead. Mr. J. O. Cook, architect. No quantities supplied:—

J. O. Richardson	£1,658	Foreman	£1,387
Sandford	1,539	Kettly	1,375
Hodge	1,410		

LONDON.—For pulling down and rebuilding Nos. 111 and 113, Powis-street, Woolwich, for the directors of the Woolwich Equitable Building Society. Messrs. J. O. Cook and H. H. Church, architects. Quantities supplied:—

F. & H. F. Higgs	£3,920	Battley, Sons & Holness	£3,573
Laselles	3,855	Balaam	3,560
J. O. Richardson	3,759	Corporative Builders	3,548
J. Smith & Son	3,753	Proctor	3,495
Munday & Co	3,742	Barden	3,445
Kirk & Randall	3,726	Hodgington	3,350
Holloway	3,943		

LONDON.—For the erection of boundary walls and alterations at the South Hallsville Schools, Tidal Basin, E., for the West Ham School Board. Mr. W. Jacques, Architect to the Board, 2, Fenchurch-court, E.C. Quantities by Messrs. R. L. Curtis & Son:—

Hosking	£2,942	Scott	£2,470
Symes	2,870	Horlock	2,391
Sharpe	2,842	Battley, Son, & Holness	2,332
Maddison	2,798	Stimpson & Co.	2,250
Hearle & Farrow	2,688	Gregar & Son, Stratford*	2,184

* Accepted.

LONDON.—For alteration to warehouse at 15, Church-street Deptford, for Messrs. J. & A. Dandredge. Mr. John Jas. Downes, architect, 199, Lewisham High-road, S.E.:—

S. Jerrard	£1,098	H. L. Holloway	£1,085
T. D. Leng	1,094	W. Reeson	795

LONDON.—For alterations to "The Warrior" public house, Coldharbour-lane, Loughboro', S.E. Mr. W. M. Epps, 21, Vaughan-road, Camberwell, architect:—

Drew & Cadman	£669	W. Smith*	£229

* Accepted.

LONDON.—For reinstating damage done by fire at 76, Goldhawk-road, Shepherd's Bush, W. Mr. Herbert Riches, architect, 3, Crooked-lane, King William-street, London, E.C.:—

C. H. and J. W. Willmott	£436	G. Lyford*	£317
T. Osborn & Sons	397		

* Accepted.

LONDON.—For addition to shop, Salmon's-lane, Limehouse, E. Mr. Herbert Riches, architect, 3, Crooked-lane, King William-street, London, E.C.:—

S. Salt	£225	T. Osborn & Sons	£194 10
J. Wynne	220	T. H. Jackson	188 10
W. Johnson	199	J. Verlander*	186 0

* Accepted.

LONDON.—For the erection of four-floor granary and stabling at Graham-street, N., for Messrs. Carter, Paterson, & Co., under the superintendence of Messrs. Wm. Eve & Son, architects, 10, Union-court, E.C.:—

Killby & Gayford	£5,971	Godfrey & Son	£5,774
Chessum & Sons	5,942	Harris & Wardrop	5,693
Chas. Cox	5,839	Patman & Fotheringham*	5,673
Mowlem & Co.	5,800		

* Accepted.

LONDON.—Accepted for the supply of road materials, for the Hendon Urban District Council. Mr. S. S. Grimley, Surveyor, The Burroughs, Hendon, N.W.:—

	Midland Railway Stations. Mill Hill. Per Ton.	Hendon. Per Ton.	Child's Hill. Per Ton.	Great Northern Railway Stations. Mill Hill. Per Ton.	Finchley. Per Ton.	Edgware. Per Ton.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Granite—Mountsorrel Granite Co.	10 0 ..	10 0 ..	10 0 ..	10 3 ..	10 3 ..	10 3
Ironstone slag—L. Sommerfield & Co.	6 7 ..	6 8 ..	6 9 ..	6 7 ..	6 11 ..	7 1
Derbyshire Limestone Chippings—W. E. Constable & Co.	10 6 ..	10 6 ..	10 6 ..	12 0 ..	12 0 ..	12 9
Ditto, 2 in. gauge—W. E. Constable & Co.	9 6 ..	9 0 ..	9 0 ..	11 0 ..	11 0 ..	11 0
Broken Pit Dug Flints—H. Willmot	6 3 ..	6 0 ..	6 0 ..	6 3 ..	6 2 ..	6 4
Best Bright Hoggin—A. Pratt	5 0 ..	5 1 ..	5 3 ..	— ..	— ..	—

LONDON.—Accepted for additions to premises in Devon's-road, Bromley-by-Bow, E. Mr. Herbert Riches, architect, 3, Crooked-lane, King William-street, London, E.C.:—
R. Coles £232

LONDON.—For alterations, &c., at the Stainsby Tavern, East India Dock-road, E., for Mr. Ives:—

Salt	£1,550	Beer & Gash	£1,281
Jackson	1,497	Simpson & Cove	1,260
Jenning	1,385	Sheffield	1,244
Coleman	1,292	Linn	1,190

LONDON.—For works in rebuilding No. 53, Queen Anne-street, W. Messrs. Murray & Foster, architects. Messrs. Leaning & Son, surveyors:—

Lathey Bros.	£2,025	F. & H. F. Higgs	£1,784
G. S. Williams	1,965	Lazengale	1,693
Lascelles	1,930	A. White & Co.	1,659
Nightingale	1,813		

LONDON.—For the construction of new roads and sewers on the Castle Hill House Estate, Ealing, Middlesex, for the Trustees of the late Charles Bartholomew. Messrs. Walton & Lee, surveyors, 10, Mount-street, Grosvenor-square, London, W. Quantities by the surveyors:—

Nowell & Robson	£2,957 0 0	Killingback & Co.	£2,622 0 0
S. Hudson	2,923 0 0	H. J. Greenham	2,582 0 0
M. N. Rhodes	2,741 1 9	T. Adams	2,499 0 0
S. Kavanagh	2,690 0 0	Wimpey & Co., Hammersmith*	2,460 0 0
H. Morecroft	2,650 0 0		
J. Pizzy	2 637 8 0		

[Surveyors' estimate, £2,847. 12s.]
* Recommended for acceptance.

LONDON.—For alterations and additions to "The Duke of Cambridge," public house, Thorne-road, South Lambeth, S.W., for Mr. G. Edwardes. Mr. E. J. Stevens, architect, 246, Camberwell-road, S.E.:—

W. Antill & Co.	£1,110	J. H. Pugh	£750
B. E. Nightingale	1,037	King & Son.*	752
Turtle & Appleton	890		

*Accepted.

LONDON.—For the erection of the Rosebery-avenue gas-meter testing office, for the London County Council:—

Slaters, Limited	£6,831 0 0	T. L. Green	£6,295 15 2
G. Munday & Sons	6,614 0 0	J. Carmichael	6,187 0 0
H. Wall & Co.	6,452 0 0	W. Wells	6,095 0 0
McCormick & Sons	6,447 0 0	G. E. Todd	5,979 0 0
Scharien	6,380 0 0		

LONDON.—For the erection of the Harrow-road weights and measures testing office, for the London County Council:—

R. A. Yerbury & Sons	£7,650	J. Carmichael	£6,870
McCormick & Sons	7,181	Thompson & Beveridge	6,758
Slaters, Limited	7,075	Stimpson & Co.	6,732
F. T. Chinchen	6,894	T. L. Green	6,005
Scharien & Co.	6,873		

LONDON.—For docking the sludge-ship *Binnie*, for the London County Council:—

Thames Ironworks Company	£523 0 0
R. & H. Green	383 7 6
Brown's Dry Dock and Engineering Company, Limited	344 5 0
Mills & Knight	340 0 0
Fletcher, Son, & Fearnall	284 0 0

MIRFIELD (Yorks.).—Accepted for additions to Southbrook Mills, for Messrs. Wilson & Ingham. Mr. John Barker, architect, Town Hall, Mirfield:—

Masonry.—W. & G. Milner, Mirfield	£5,774 1 at schedule prices.
Joinery.—Barker & Clough, Mirfield	
Slating and Plastering.—Albert Shaw, Mirfield	
Plumbing.—Chas. Fawthorpe, Mirfield	
Painting—Hy. Roberts, Mirfield	
Ironfounding.—J. & G. Horsfield, Dewsbury	

NANTWICH.—For the execution of water supply works for the Rural District Council. Mr. John Aldersey Davenport, engineer, Heath Bank, Nantwich:—

Wettenhall Water Supply.

John Dodd, Market-place, Winsford*	£235 10
Cochrane & Co., Woodside Nonlinks, near Dudley†	At schedule prices.
Blakeborough & Sons, Brighouse, Yorks.‡	Do.
Samuel Wood, Waethall-street, Crewe§	£80 10

* Accepted for laying mains.
† Accepted for cast-iron pipes and specials.
‡ Accepted for hydrants, valves, and fittings.
§ Accepted for laying mains in Warmingham and Haslington.
Cochrane & Co. obtained contracts for Warmingham and Haslington water main extensions, and Blakeborough & Son for fittings on the same schedule of prices.

PAIGNTON.—For the erection of a villa residence at Dunstone Park, Marldon Hill, for the Paignton Land and Building Company, Limited. Mr. W. G. Couldrey, architect, Paignton. Quantities by Mr. Vincent Cattermole Brown, of Paignton:—

E. Westlake	£1,099 0 0	H. F. Rabbich	£1,070 0 0
C. & R. E. Drew	1,094 0 0	Webber & Maunder*	1,039 2 6
H. Webber Sons	1,083 0 0		

* Accepted.

PAIGNTON.—Accepted for the erection of stabling at "The Quarry," for Mr. Chas. Eastley. Messrs. Norman G. Bridgman & Walter H. Bridgman, of Torquay and Paignton, architects:—
C. & R. E. Drew £212 0 0

ST. ALBANS.—For additions to school buildings, Colney Heath, for the St. Peter Rural School Board. Mr. T. Foster Woodman, F.S.I., St. Albans:—
J. T. Bushell, Worley-road, St. Albans £339 15

ST. ALBANS.—For the erection of a drying closet at the workhouse, for the Union Guardians. Mr. T. Foster Woodman, F.S.I., surveyor, St. Albans:—
Barford & Perkins, Peterborough £175

SEAFORD.—For the construction of roads and sewers on the Hindover Estate, for Mr. W. Lambe. Mr. William Cooper, surveyor, 21, Havelock-road, Hastings. Quantities by the surveyor:—

P. Jenkins	£1 251 5 0	J. Piper	£677 0 0
E. Gatsell	8 4 7 0	W. H. Saunders & Co.	
G. Bell	695 0 0	Bournemouth*	658 4 3

* Accepted.

STUCKTON (near Fordingbridge, Hants).—For alterations and additions to residence known as Flaxfield, together with new stable and repairs to outbuildings, for Mr. T. G. Viney. Mr. Fred. Bath, architect, Crown-chambers, Salisbury:—

Jenkins & Sons	£1,077	R. Elcock, Wimborne*	£945
J. Shering	1,060		

* Accepted.

STUCKTON (near Fordingbridge, Hants).—For a new cottage or Mr. T. G. Viney. Mr. Fred. Bath, architect, Crown-chambers, Salisbury :—

R. Elcock	£372	J. Shering, Fordingbridge*	£272
Jenkins & Sons	361	* Accepted.	

WIMBLEDON. — For the erection of four dwelling-houses, Hubert-road, for Mr. W. M. Gilbert. Mr. Cooper, architect, 121, Havelock-road, Hastings. Quantities by the architect :—

James Welsh	£1,623 0 0	S. Boothman	£1,320 0 0
W. H. Larman	1,595 2 6	James Burges	1,320 0 0
E. P. Bulled & Co.	1 527 0 0	C. W. Bathurst	1,295 11 5
Padgham & Hutchinson	1,459 10 0	Claridge & Constable	1,261 0 0
H. E. Cruttenden	1,452 0 0	Henry Brown, Wandsworth*	1,250 0 0
E. Heather	1,350 0 0	* Accepted.	

LONDON SCHOOL BOARD TENDERS.

THE following lists of tenders have just been submitted to the London School Board by the Works Committee of that body :—

CHELSEA (Kingswood-road).—New school for 1,472 children, with school for special instruction and school-keeper's house :—

H. Lovatt	£29 164	Holloway Bros.	£27,477
J. & M. Patrick	29 047	W. Downs	27,280
Lathey Bros.	28,809	Treasure & Son	26 986
J. F. Collinson	28,726	Dove Bros.	26,725
W. Pattinson & Sons	28,325	Stimpson & Co.	26 500
J. Grover & Son	28,282	Kirk & Randall	26,435
R. A. Yerbury & Sons	27,950	J. Shillitoe & Son	25,950
G. E. Wallis & Son	27,974	C. Cox	25,923
D. Charteris	27,698	E. Lawrance & Sons*	25,696

CHELSEA (Star-lane).—Enlarging and rebuilding offices all departments, and providing additional lavatory accommodation and new drainage. Second competition :—

W. Hammond	£2 255 0 0	W. Downs	£2,143 0 0
J. Grover & Son	2,270 0 0	F. G. Minter	2 122 0 0
G. Neal	2,268 0 0	G. Foxley	2 114 0 0
H. Mallett	2,214 0 0	Lathey Bros.	2,098 0 0
G. Lyford	2,073 18 3	R. A. Yerbury & Sons	2 043 0 0
D. Charteris	2,184 0 0	Lilly & Lilly, Ltd.*	1,887 0 0
B. E. Nightingale	2,176 0 0		

CHELSEA (Waterloo-street).—Providing and fixing small low-pressure hot-water apparatus for boys' hall on ground floor and girls' hall and three class-rooms on first floor.

Fraser & Fraser, Limited	£189 0	J. & F. May	173 10
Maguire & Son	186 0	Wontner-Smith, Gray, & Co.	166 0
Z. D. Berry & Sons	179 0	Rosser & Russell, Limited*	£139 0
G. Davis	£175 0		

FINSBURY (Bath-street).—Rebuilding offices all departments, and providing new drainage :—

N. Lidstone	£2 173	R. P. Beattie	£1,762
J. Grover & Son	1,993	H. Knight & Son	1,739
C. Cox	1,970	L. H. & R. Roberts	1,723
Staines & Son	1,824	W. Akers & Co.	1,721
G. Munday & Sons	1,810	J. T. Robey*	1,626
E. Lawrance & Sons	1,778		

FINSBURY (Grafton-road) : boys', girls', and infants' departments.—Providing and fixing hot-water coils in corridors and tubular boilers.

J. Defries & Sons, Limited	£85 0	W. J. Fox	£63 0
W. G. Cannon & Sons	77 10	J. C. & J. S. Ellis, Limited	62 10
Vaughan & Brown, Limited	69 0	J. Wontner-Smith, Gray, & Co.*	58 18

HACKNEY (Windsor-road).—New school for 902 children with cookery and laundry centres, special school, and schoolkeeper's house :—

Treasure & Son	£26,161	W. Shurmur	£24,724
Killby & Gayford	25 983	E. Lawrance & Sons	23 921
W. Gregar & Son	25,950	C. Cox	23,497
Dove Bros.	25,685	Stimpson & Co.	23,460
J. Grover & Son	25,145	W. Pattinson & Sons	23,199
W. M. Dabbs	24,961	D. Charteris*	22,973
Atherton & Dolman	24,883		

HACKNEY (Grange-street).—New school for 1,064 children, with playground on roof, for girls' department, and a manual training centre on arches ; and adapting an existing house for the use of schoolkeeper :—

Dove Brothers	£23,375	C. Cox	£20,330
W. Pattinson & Sons	22,775	Killby & Gayford	22,300
Stimpson & Co.	21,819	J. Shillitoe & Son	22,295
J. & M. Patrick	21,241	W. M. Dabbs	22,238
Kirk & Randall	21,182	Treasure & Son	22,237
C. Miskin	20,955	J. Grover & Son	19,988
J. Longley & Co.	20,623	W. Gregar & Son	19,987
Lathey Brothers	20,430	E. Lawrance & Sons*	19,037
Atherton & Dolman	20,372		

HACKNEY (Eleanor-road).—New school for 895 children, with manual training centre and playground on top of school for boys :—

D. Charteris	£20,187	C. Cox	£18,665
G. Munday & Sons	19 912	G. E. Wallis & Sons	18,350
R. A. Yerbury & Sons	19 904	W. Shurmur	17,982
H. Lovatt	19,611	E. Lawrance & Sons	17,981
B. E. Nightingale	19,546	W. M. Dabbs	17,964
L. H. & R. Roberts	19,170	Treasure & Son	17,894
W. King & Son	19,157	Kirk & Randall	17,892
J. & M. Patrick	19,036	J. Grover & Son*	17,648

MARYLEBONE ("Brecknock").—Repairing stoves :—

Ashton & Green Iron Co. †	£65 0 0
McDowall, Steven & Co., Ltd.	61 3 6
†Hayward, Bros., & Eckstein*	58 10 0
† Exclusive of builders' work, &c.	

SOUTHWARK (Rolls-road). — Enlargement by 204 places—boys, 96 ; girls, 108 ; total, 204. Placing existing class-rooms on the seat accommodation ; providing new halls, corridors, cloak-rooms, and lavatories for boys and girls ; new staircase for boys ; new boiler-room and heating scheme ; enclosing, draining, and tar-paving additional land :—

Kirk & Randall	£8 288	Killby & Gayford	£7,944
Lathey Bros.	8,181	T. L. Green	7,979
W. Downs	8,162	C. Cox	7,759
D. Charteris	8,044	H. Lovatt	7,565
Holloway Bros.	8,015	E. Lawrance & Sons	7,560
Dove Bros.	8,006	Stimpson & Co.*	7,343

MARYLEBONE (Medburn-street).—Repairing stoves :—

R. H. & J. Pearson, Limited	£30 0 0	Hendry & Pattisson	£19 0 0
Wontner-Smith, Gray, & Co.	24 16 6	W. G. Cannon & Sons	14 10 0
G. Miller	23 0 0	J. Defries & Sons, Limited*	10 0 0
G. Davis	22 0 0	Comyn Ching & Co.	8 18 6
		J. F. Clarke & Sons	8 5 0

SOUTHWARK (Marlborough-street). — Rebuilding girls' and infants' offices, providing drainage, and making temporary connection from boys' offices :—

F. G. Minter	£1,268	Vernall, Danes & Co.	£1,050
H. Mallett	1,175	W. V. Goad	998
W. Hammond	1,158	W. Akers & Co.	968
W. Downs	1,093	H. Somerford & Son*	924
H. Knight & Son	1,092	Holliday & Greenwood	790
Lathey Bros.	1,083		

TOWER HAMLETS (Portman-place).—Junior mixed school for 414 children, with special school for sixty children, cookery and manual training centres, drawing class-room and science rooms, removing and re-building existing w.c.'s. for girls and infants, providing additional w.c.'s. for boys, re-dividing playgrounds, removing and refixing covered playground for girls and infants, and enclosing, draining and tar-paving additional land :—

H. Lovatt	£13,764	W. Pattinson & Sons	£12,622
T. L. Green	13,607	Stimpson & Co.	12,300
W. Gregar & Son	13 319	E. Lawrance & Sons	12,156
Killby & Gayford	13 3 5	J. Shillitoe & Son	12,041
Atherton & Dolman	13,090	C. Cox	11,974
J. Longley & Co.	12,939	G. E. Wallis & Sons*	11,786
J. Grover & Son	12,929		

TOWER HAMLETS (Single-street) : Infants' Department.—Building porch outside hall, forming exit doorway and passage-way to same through cloak-room ; providing framing and swing doors to archway to corridor leading into hall and grinding portion of glass in partition :—

C. L. Cole	£317	Hearle & Farrow	£249
D. Gibb & Co.	299	A. E. Symes	236
W. Gregar & Son	272	J. T. Robey*	224
J. F. Holliday	256		

TOWER HAMLETS (Upper North-street).—Dividing two large class-rooms into three class-rooms by altering the position of a glazed partition, providing a new partition, air inlet shafts, and a new stove for warming centre class-room :—

C. L. Cole	£145 0	W. Gregar & Son	£124 0
J. F. Holliday	138 15	G. Barker	110 0
D. Gibb & Co.	130 0	J. T. Robey*	95 0
T. H. Jackson	125 0		

WEST LAMBETH (Smallwood-road).—New school for 1 273 children, and school-keeper's house :—

W. King & Son	£24,900	Holloway Bros.	£21,637
Lathey Bros.	23 317	C. Cox	21,549
J. Marsland	23,160	G. E. Wallis & Sons	21,437
W. Downs	22,783	Stimpson & Co.	21,200
J. & M. Patrick	22,252	Kirk & Randall	21,174
W. Pattinson & Sons	22,241	E. Lawrence & Sons	21,019
T. Boyce	21,752	Treasure & Son	21,015
D. Charteris	21,656	J. Shillitoe & Son*	20,730

WEST LAMBETH (Swaffield-road). — New school for 1,273 children, with schoolkeeper's house and manual centre :—

Lathey Brothers	£24,870	D. Charteris	£23,057
J. Marsland	24,354	G. E. Wallis & Sons	22,941
J. & M. Patrick	24,345	C. Cox	22,929
J. Longley & Co.	23,590	Kirk & Randall	22,794
W. Downs	23,036	H. Lovatt	22 487
G. Munday & Son	23,874	E. Lawrance & Sons	22,356
Holloway Brothers	23,642	J. Shillitoe & Son	22,295
T. Boyce	23,285	Treasure & Son*	22,133

WEST LAMBETH (Rosendale-road site).—Removing two temporary iron buildings and w.c.'s, from Shillington-street site, and re-erecting them on this site, including foundations and cloak-rooms :—

T. Cruwys	£825	Humphreys, Limited	£503
J. Marsland	625	*W. Harbrow	587

Supply of Trolleys.

	4 ft. 6 in. by 2 ft. 5 in.	4 ft. by 2 ft.
Illingworth, Ingham & Co.	each £7 7 6	£7 7 6
W. H. Lascelles & Co.	,, 6 7 0	5 17 6
C. Tayler & Co.	,, 4 0 0	4 0 0
Wrinch & Sons	,, 3 7 6	3 5 0
H. Bouneau	,, *2 17 6	*2 10 6

Supply of Hammock Chairs for Special Schools.

G. M. Hammer & Co.* ..... £0 13 0 each.

WEST LAMBETH (Gipsy-road).—Removing old gallery and stepped flooring in babies' room, and providing and fixing a new pattern gallery. Providing two fresh-air inlet shafts in infants' department :—

A. Black & Son	£95 0	J. & C. Bowyers	£70 0
G. Kemp	89 0	E. B. Tucker	62 14
H. Leney	80 0	R. E. Williams & Sons*	60 0
W. Akers & Co.	72 0		

Tenders marked with asterisks are recommended for acceptance.

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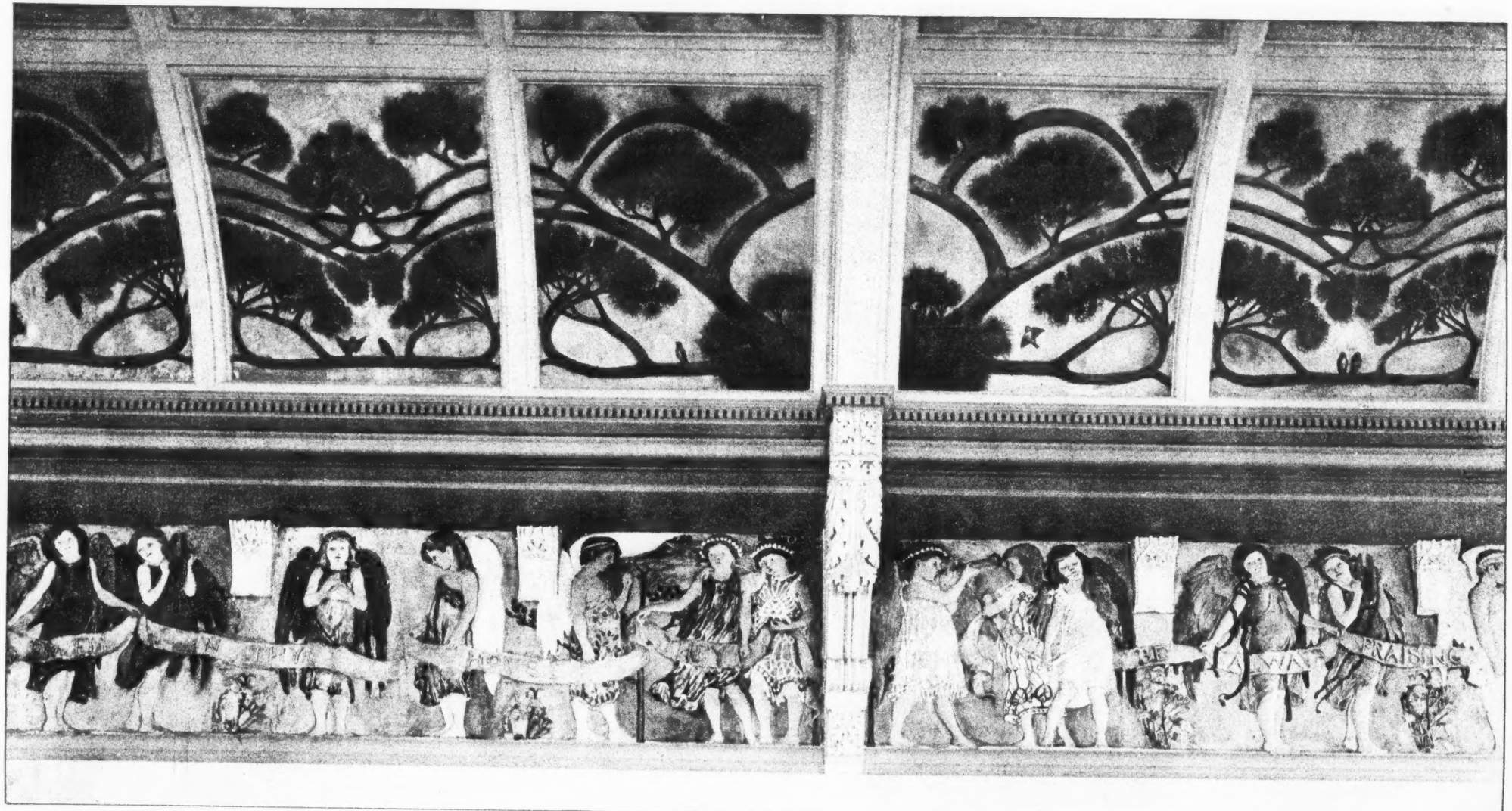

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(The Illustration shows also the lower portion of Ceiling design.)

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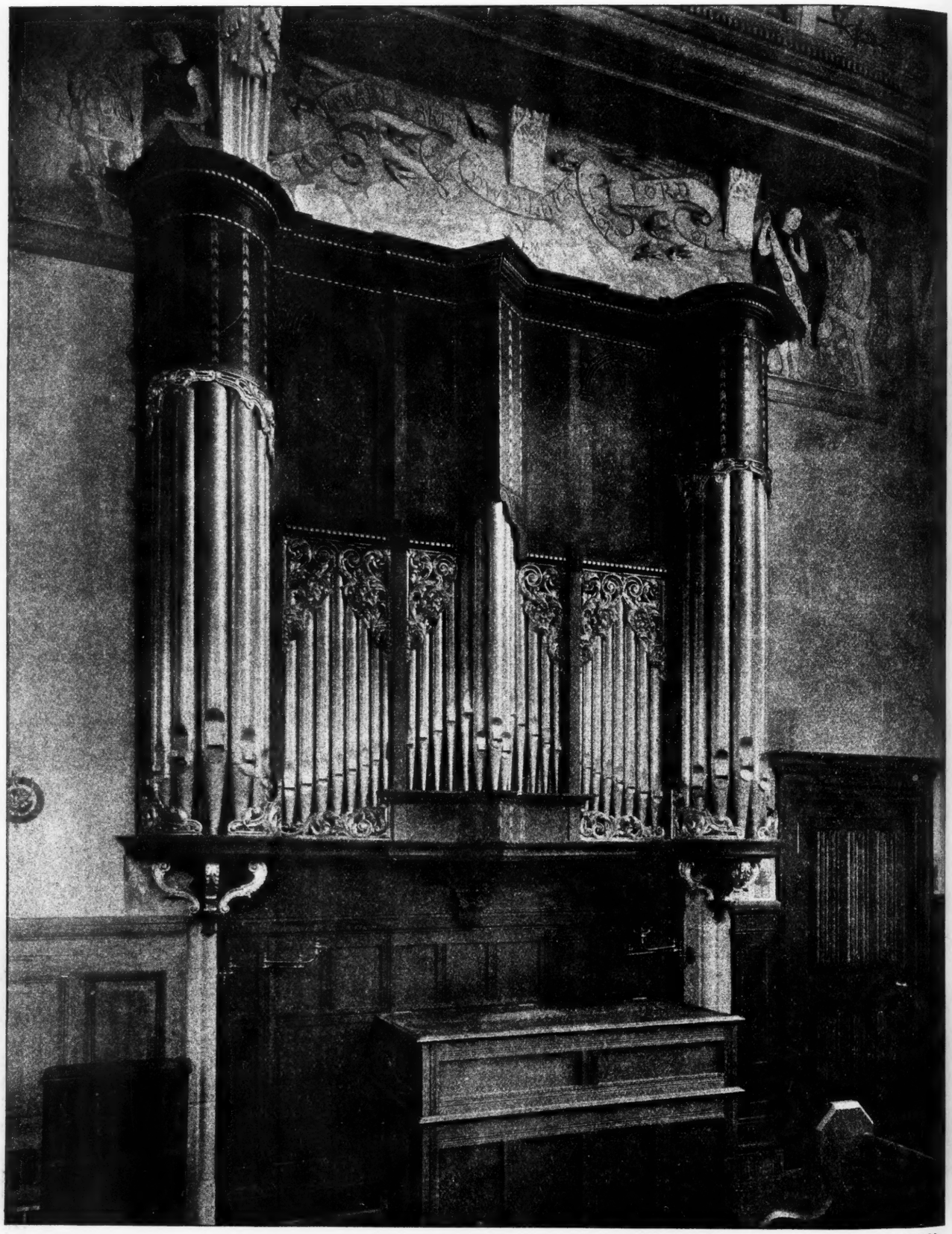

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ORGAN-CASE IN CHAPEL, DOUGLAS CASTLE.—Mr. H. Wilson, Architect.

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WINDOW IN CHAPEL, DOUGLAS CASTLE.—Designed by Mr. C. W. Whall.

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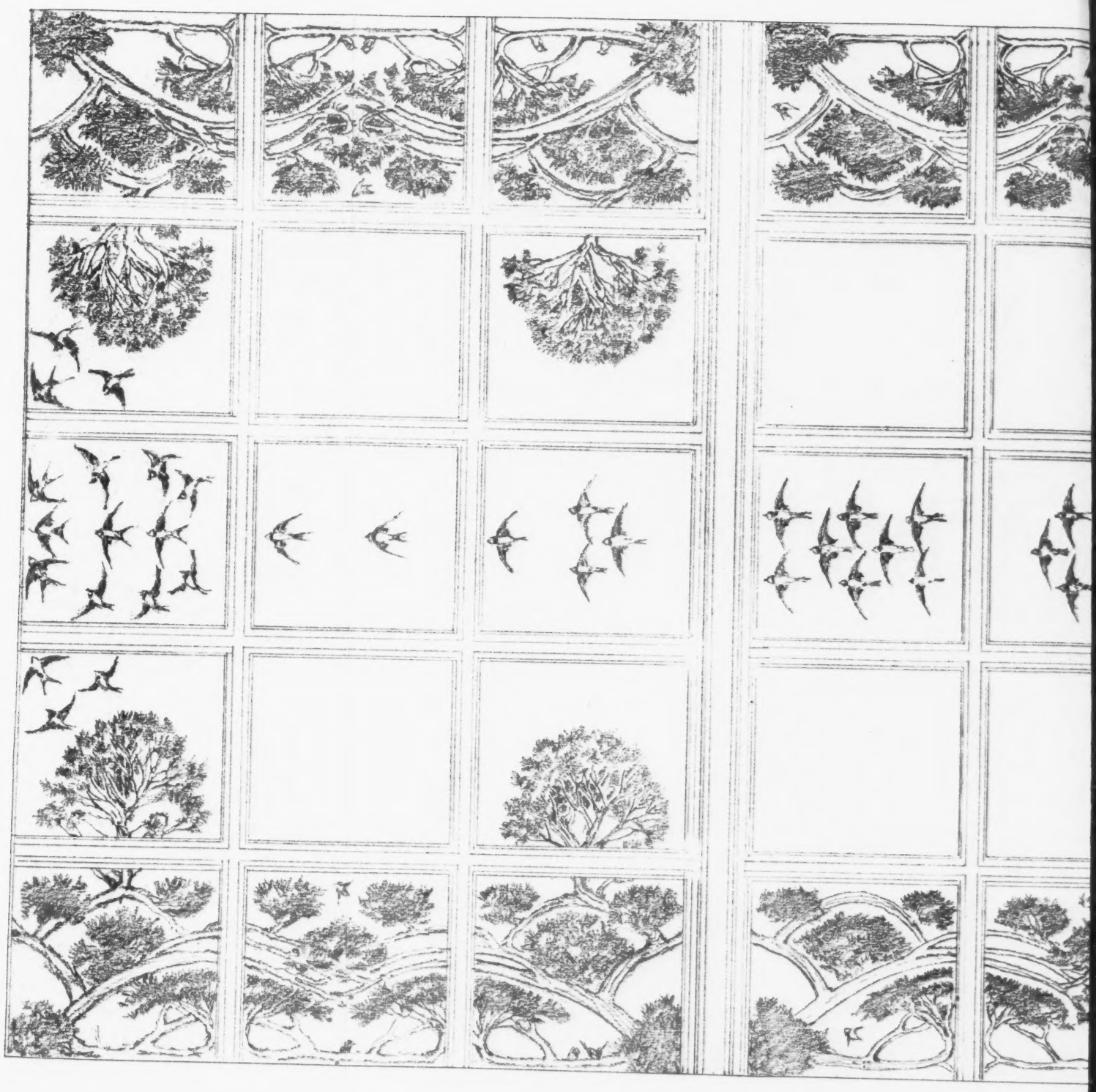

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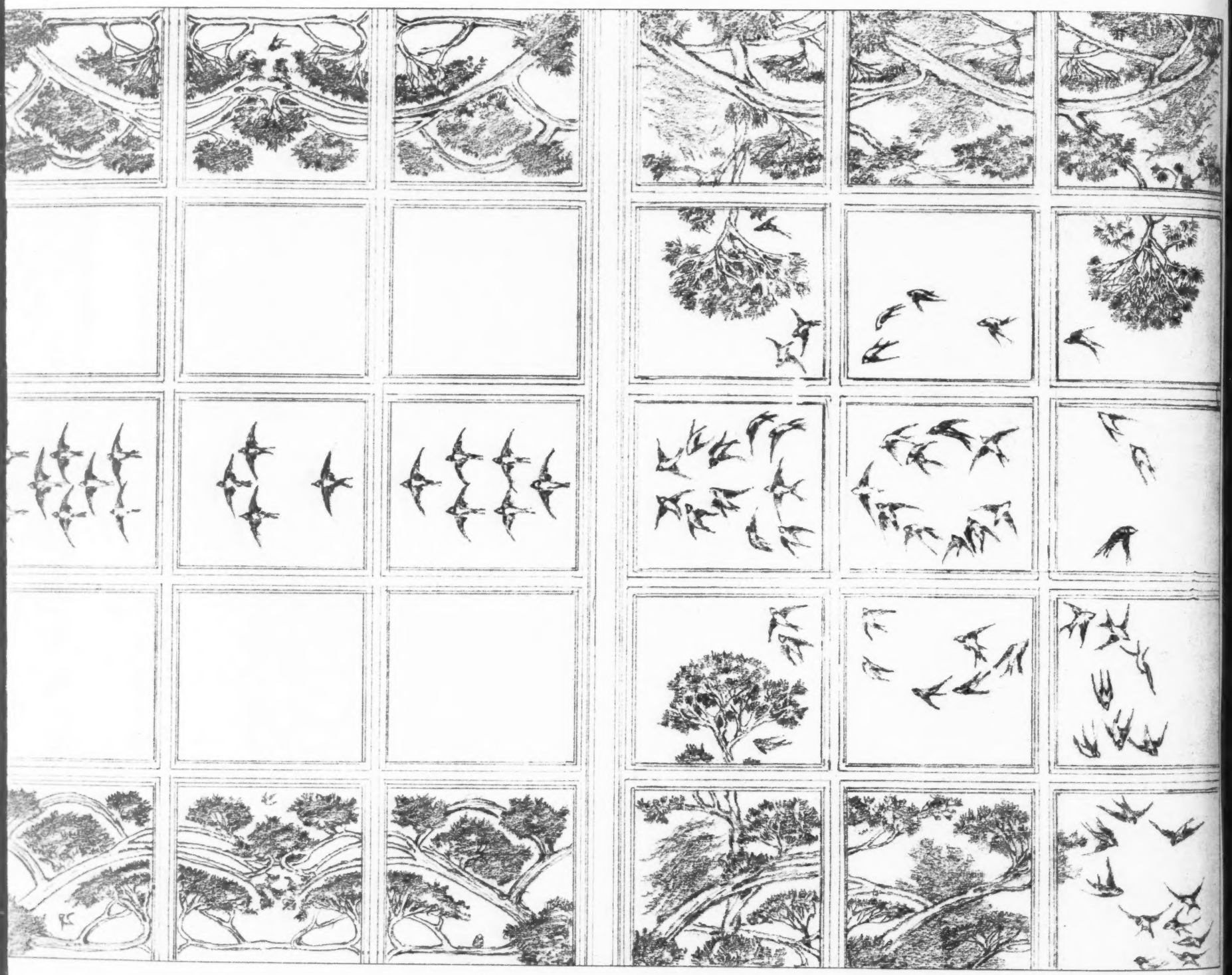

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